DOCUMENT RESUME

ED 473 139 SE 067 222

TITLE	Sea Grant: Review and Authorization. Hearing Before the Subcommittee on Environment, Technology, and Standards, Committee on Science, House of Representatives, 107th Congress, First Session (February 28, 2002).
INSTITUTION	Congress of the U.S., Washington, DC. House.
REPORT NO	House-Hrg-107-47
PUB DATE	2002-02-28
NOTE	95p.
AVAILABLE FROM	U.S. Government Printing Office, Mail Stop: SSOP, Washington, DC 20402-0001. Tel: 866-512-1800 (Toll Free); Fax: 202-512-2250; Web site: http://www.house.gov/.
PUB TYPE	Legal/Legislative/Regulatory Materials (090)
EDRS PRICE	EDRS Price MF01/PC04 Plus Postage.
DESCRIPTORS	*Economics; Educational Policy; Elementary Secondary Education; Financial Support; *Hearings; Higher Education; *Marine Education; Science Instruction; Science Programs
IDENTIFIERS	*Science Policy; *Sea Grant Program

ABSTRACT

The hearing reported in this document focuses on the Sea Grant College Program and evaluates the President's fiscal year 2003 budget proposal for the transfer of the Sea Grant program to the National Science Foundation (NSF). The hearing includes opening statements by Representative Vernon J. Ehlers, Chairman, Subcommittee on Environment, Technology, and Standards, Committee on Science, U.S. House of Representatives; Representative James A. Barcia, Minority Ranking Member, Subcommittee on Environment, Technology, and Standards, Committee on Science, U.S. House of Representatives; Representative Constance Morella, Member, Subcommittee on Environment, Technology, and Standards, Committee on Science, U.S. House of Representatives; Representative Nick Smith, Member, Subcommittee on Environment, Technology, and Standards, Committee on Science, U.S. House of Representatives; Representative Wayne Gilchrest, Member, Subcommittee on Environment, Technology, and Standards, Committee on Science, U.S. House of Representatives; Representative Felix Grucci Member, Subcommittee on Environment, Technology, and Standards, Committee on Science, U.S. House of Representatives; Honorable Robert A. Underwood, Member of Congress; Vice Admiral Conrad C. Lautenbacher, Jr., Under Secretary of Commerce for Oceans and Atmosphere, National Oceanic and Atmospheric Administration; Dr. Russell A. Moll, Director, California Sea Grant College Program, University of California, San Diego; Mary Hope Katsouros, Senior Fellow and Senior Vice President, The H. John Heinz III Center for Science, Economics, and the Environment; Dr. Nancy N. Rabalais, Professor, Louisiana Universities Marine Consortium; and Michael J. Donahue, President/Chief Executive Officer, Great Lakes Commission. Appendices include biographies, financial disclosures, answers to post-hearing questions, and additional materials for the record. (YDS)

Reproductions supplied by EDRS are the best that can be made
from the original document.

SEA GRANT: REVIEW AND REAUTHORIZATION

ED 473 139

HEARING

BEFORE THE

SUBCOMMITTEE ON ENVIRONMENT, TECHNOLOGY, AND STANDARDS

COMMITTEE ON SCIENCE

HOUSE OF REPRESENTATIVES

ONE HUNDRED SEVENTH CONGRESS

SECOND SESSION

FEBRUARY 28, 2002

Serial No. 107–47

Printed for the use of the Committee on Science

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Available via the World Wide Web: http://www.house.gov/science

U.S. GOVERNMENT PRINTING OFFICE
77–749PS WASHINGTON : 2002

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
Fax: (202) 512–2250 Mail: Stop SSOP, Washington, DC 20402–0001

BEST COPY AVAILABLE

COMMITTEE ON SCIENCE

HON. SHERWOOD L. BOEHLERT, New York, *Chairman*

LAMAR S. SMITH, Texas
CONSTANCE A. MORELLA, Maryland
CHRISTOPHER SHAYS, Connecticut
CURT WELDON, Pennsylvania
DANA ROHRABACHER, California
JOE BARTON, Texas
KEN CALVERT, California
NICK SMITH, Michigan
ROSCOE G. BARTLETT, Maryland
VERNON J. EHLERS, Michigan
DAVE WELDON, Florida
GIL GUTKNECHT, Minnesota
CHRIS CANNON, Utah
GEORGE R. NETHERCUTT, JR., Washington
FRANK D. LUCAS, Oklahoma
GARY G. MILLER, California
JUDY BIGGERT, Illinois
WAYNE T. GILCHREST, Maryland
W. TODD AKIN, Missouri
TIMOTHY V. JOHNSON, Illinois
MIKE PENCE, Indiana
FELIX J. GRUCCI, JR., New York
MELISSA A. HART, Pennsylvania
J. RANDY FORBES, Virginia

RALPH M. HALL, Texas
BART GORDON, Tennessee
JERRY F. COSTELLO, Illinois
JAMES A. BARCIA, Michigan
EDDIE BERNICE JOHNSON, Texas
LYNN C. WOOLSEY, California
LYNN N. RIVERS, Michigan
ZOE LOFGREN, California
SHEILA JACKSON LEE, Texas
BOB ETHERIDGE, North Carolina
NICK LAMPSON, Texas
JOHN B. LARSON, Connecticut
MARK UDALL, Colorado
DAVID WU, Oregon
ANTHONY D. WEINER, New York
BRIAN BAIRD, Washington
JOSEPH M. HOEFFEL, Pennsylvania
JOE BACA, California
JIM MATHESON, Utah
STEVE ISRAEL, New York
DENNIS MOORE, Kansas
MICHAEL M. HONDA, California

Subcommittee on Environment, Technology, and Standards

VERNON J. EHLERS, Michigan, *Chairman*

CONSTANCE A. MORELLA, Maryland
CHRISTOPHER SHAYS, Connecticut
CURT WELDON, Pennsylvania
NICK SMITH, Michigan
GIL GUTKNECHT, Minnesota
CHRIS CANNON, Utah
FELIX J. GRUCCI, JR., New York
MELISSA A. HART, Pennsylvania
WAYNE T. GILCHREST, Maryland
J. RANDY FORBES, Virginia
SHERWOOD L. BOEHLERT, New York

JAMES A. BARCIA, Michigan
LYNN N. RIVERS, Michigan
ZOE LOFGREN, California
MARK UDALL, Colorado
ANTHONY D. WEINER, New York
BRIAN BAIRD, Washington
JOSEPH M. HOEFFEL, Pennsylvania
JOE BACA, California
JIM MATHESON, Utah
RALPH M. HALL, Texas

PETER ROONEY *Subcommittee Staff Director*
MIKE QUEAR *Democratic Professional Staff Member*
ERIC WEBSTER *Professional Staff Member*
CAMERON WILSON *Professional Staff Member/Chairman's Designee*
MARTY SPITZER *Professional Staff Member*
MARK ABDY *Professional Staff Member*
MARY DERR *Majority Staff Assistant*
MARTY RALSTON *Democratic Staff Assistant*

BEST COPY AVAILABLE

CONTENTS

February 28, 2002

Page

Witness List 2

Hearing Charter 3

Opening Statements

Statement by Representative Vernon J. Ehlers, Chairman, Subcommittee on Environment, Technology, and Standards, Committee on Science, U.S. House of Representatives 6
  Written Statement 7

Statement by Representative James A. Barcia, Minority Ranking Member, Subcommittee on Environment, Technology, and Standards, Committee on Science, U.S. House of Representatives 7
  Written Statement 8

Prepared Statement by Representative Constance Morella, Member, Subcommittee on Environment, Technology, and Standards, Committee on Science, U.S. House of Representatives 9

Prepared Statement by Representative Nick Smith, Member, Subcommittee on Environment, Technology, and Standards, Committee on Science, U.S. House of Representatives 10

Prepared Statement by Representative Wayne Gilchrest, Member, Subcommittee on Environment, Technology, and Standards, Committee on Science, U.S. House of Representatives 10

Prepared Statement by Representative Felix Grucci, Member, Subcommittee on Environment, Technology, and Standards, Committee on Science, U.S. House of Representatives 10

Panel I

Honorable Robert A. Underwood, Member of Congress 11
  Written Statement 12

Panel II

Vice Admiral Conrad C. Lautenbacher, Jr., Under Secretary of Commerce for Oceans and Atmosphere, National Oceanic and Atmospheric Administration 14
  Written Statement 15

Dr. Russell A. Moll, Director, California Sea Grant College Program, University of California, San Diego 17
  Written Statement 19

Mary Hope Katsouros, Senior Fellow and Senior Vice President, The H. John Heinz III Center for Science, Economics, and the Environment 25
  Written Statement 26

Dr. Nancy N. Rabalais, Professor, Louisiana Universities Marine Consortium 28
  Written Statement 29

Michael J. Donahue, President/Chief Executive Officer, Great Lakes Commission 37
  Written Statement 38

Page

Discussion

Opportunities to Improve the Program 44
Peer Review Process 45
Stakeholder Involvement in the Transfer Decision 46
Sea Grant's "Fit" at NSF 46
State and Local Extension Funds 46
Allocation of Sea Grant Funds 47
Funding Ship Time 49
Mr. Gilchrest's Response to Discussion of His Bill 51
Benefits of Sea Grant/COP Collaboration? 52
Transfer to NSF 53
State/Federal Relationship on Sea Grant 56
Transfer to NSF 56
Meeting National Needs 57
Allocation of Sea Grant Funds 58
Allocation and Peer Review 58
Funding for New Hampshire and Maine 62
Information Exchange Under NSF 62
Chairman Ehlers' Concluding Thoughts 63

Appendix 1: Biographies, Financial Disclosures, and Answers to Post-Hearing Questions

Vice Admiral Conrad C. Lautenbacher, Jr., Under Secretary of Commerce for Oceans and Atmosphere, National Oceanic and Atmospheric Administration

Biography 68
Response to Post-Hearing Questions 69

Dr. Russell A. Moll, Director, California Sea Grant College Program, University of California, San Diego

Biography 72
Financial Disclosure 73
Response to Post-Hearing Questions 74

Mary Hope Katsouros, Senior Fellow and Senior Vice President, The H. John Heinz III Center for Science, Economics, and the Environment

Biography 75
Financial Disclosure 76
Response to Post-Hearing Questions 77

Dr. Nancy N. Rabalais, Professor, Louisiana Universities Marine Consortium

Biography 78
Financial Disclosure 79
Response to Post-Hearing Questions 81

Michael J. Donahue, President/Chief Executive Officer, Great Lakes Commission

Biography 82
Response to Post-Hearing Questions 83

Appendix 2: Additional Material for the Record

Submitted Statement of Dr. Geraldine Knatz, Chair, Sea Grant Review Panel 86
Submitted Statement of Kevin G. Sellner, Director, Chesapeake Research Consortium 90

SEA GRANT: REVIEW AND REAUTHORIZATION

THURSDAY, FEBRUARY 28, 2002

House of Representatives,
Subcommittee on Environment, Technology, and Standards,
Committee on Science,
Washington, DC.

The Subcommittee met, pursuant to call, at 10:08 a.m., in Room 2318 of the Rayburn House Office Building, Hon. Vernon J. Ehlers [Chairman of the Subcommittee] presiding.

COMMITTEE ON SCIENCE
U.S. HOUSE OF REPRESENTATIVES

Sea Grant: Review and Reauthorization

Thursday, February 28, 2002

10:00 AM – 12:00 PM
2318 Rayburn House Office Building

Witness List

Vice Admiral Conrad C. Lautenbacher, Jr.
Under Secretary
of Commerce for Oceans and Atmosphere,
National Oceanic and Atmospheric
Administration

Mary Hope Katsouros
Senior Fellow and Senior Vice President,
The H. John Heinz III Center for Science,
Economics, and the Environment

Dr. Michael Donahue
President/Chief Executive Officer,
Great Lakes Commission

Dr. Russell Moll
Director,
California Sea Grant College Program,
University of California San Diego

Dr. Nancy Rabalais
Professor,
Louisiana Universities Marine Consortium

Section 210 of the Congressional Accountability Act of 1995 applies the rights and protections covered under the Americans with Disabilities Act of 1990 to the United States Congress. Accordingly, the Committee on Science strives to accommodate/meet the needs of those requiring special assistance. If you need special accommodation, please contact the Committee on Science in advance of the scheduled event (3 days requested) at (202) 225-6371 or FAX (202) 225-0891.

Should you need Committee materials in alternative formats, please contact the Committee as noted above.

BEST COPY AVAILABLE

HEARING CHARTER

SUBCOMMITTEE ON ENVIRONMENT, TECHNOLOGY, AND STANDARDS
COMMITTEE ON SCIENCE
U.S. HOUSE OF REPRESENTATIVES

Sea Grant: Review and Reauthorization

THURSDAY, FEBRUARY 28, 2002
10:00 A.M.–12:00 P.M.
2318 RAYBURN HOUSE OFFICE BUILDING

Purpose

On Thursday, February 28, 2002, the House Subcommittee on Environment, Technology, and Standards will hold a hearing regarding the Sea Grant College Program. The hearing will evaluate the President's fiscal year 2003 Budget proposal to transfer Sea Grant from the National Oceanic and Atmospheric Administration (NOAA) to the National Science Foundation (NSF). In addition, the hearing will explore H.R. 3389, which would reauthorize the Sea Grant College Program within NOAA.

The Science Committee shares jurisdiction over Sea Grant with the House Resources Committee. The Subcommittee and full Committee plan to mark up H.R. 3389 in March.

Specifically, the hearing will explore the following questions:

(1) What are the pros and cons of the proposal to move the Sea Grant College Program from NOAA to the National Science Foundation?
(2) What are the current goals of NOAA's Sea Grant Program and should they be changed. If so, how, and what role should the states and extension service serve?
(3) Should Sea Grant change its methods of allocating funding and conducting peer-review to respond to criticism? If so, how?
(4) H.R. 3389 proposes to incorporate the Coastal Ocean Program, now part of the National Ocean Service, into the Sea Grant College Program. What are the pros and cons of this transfer and would the goals of the Coastal Ocean Program be better served under Sea Grant?

The Witnesses:

(1) Vice Admiral Conrad C. Lautenbacher, Jr., Under Secretary of Commerce for Oceans and Atmosphere, National Oceanic and Atmospheric Administration
(2) Dr. Russell A. Moll, Director, California Sea Grant College Program,University of California San Diego
(3) Mary Hope Katsouros, Senior Fellow and Senior Vice President, The H. John Heinz III Center for Science, Economics, and the Environment
(4) Dr. Nancy N. Rabalais, Professor, Louisiana Universities Marine Consortium
(5) Michael J. Donahue, President/Chief Executive Officer, Great Lakes Commission

Background:

History

The National Sea Grant College Program (Sea Grant) was established by the National Sea Grant College Act (33 U.S.C. 1121–1131), which Congress passed in 1966. Sea Grant was modeled as the marine version of the research and extension activities based at the country's land grant universities. Sea Grant's objective is to increase the understanding, assessment, development, utilization and conservation of the Nation's ocean, coastal and Great Lakes resources. Sea Grant was originally housed at the National Science Foundation, but was transferred to the newly created NOAA in the Department of Commerce in 1970. Sea Grant is made up of 30 Sea Grant College programs located in coastal and Great Lakes states and Puerto Rico that use the resources of more than 300 U.S. universities and scientific institutions to conduct marine research, education and outreach activities.

Make-up of State Programs

Each Sea Grant state program works with the National Sea Grant office and its user community to develop a list of priority research areas to promote the sustainable use and overall well-being of marine resources. Each program designs its own education programs that provide training for future marine scientists and technicians at the graduate level as well as for secondary and elementary students and teachers. Each program also develops its own Sea Grant Extension service, where agents provide information and technical assistance to the public based on the research generated. Finally, each state program develops its own mix of research, education and outreach to suit its particular needs.

Funding

The law establishing Sea Grant does not designate how funding should be allocated among the Sea Grant programs. However, the 30 designated programs receive funding for core activities in a bulk amount (similar to a block grant). The state programs then decide how to spend their money, through a mix of research projects, education, and extension activities. At least one-third of the cost of the projects must come from non-federal matching funds, and can consist of in-kind contributions.

For FY 2001, $62 million in federal funds was appropriated for Sea Grant. According to the National Sea Grant Office, about 80 percent went directly to the state programs, and 15 percent went to national strategic initiatives through national, competitive grants. By law no more than five percent can go for national administration of the program. The state programs contributed about another $35 million in matching and in-kind contributions, and there was another $16 million that was managed by Sea Grant but appropriated to other programs for a total of about $113 million.

Of the $113 million total in federal and state matching funds for Sea Grant in FY 2001, about $63 million or 56 percent was awarded through state and national competitions. The remaining 44 percent was used for extension, communication, education and management functions, which are reviewed by NOAA.

Peer-review for Projects and Program Review

Responsibility for generating, evaluating, and selecting proposals that are subject to open competition lies with the state programs. However, the National Sea Grant Office has issued guidelines in an attempt to standardize the process. The National Sea Grant Office must approve the decision-making process before the funding is awarded.

A visiting committee chosen by the National Sea Grant Office is supposed to review each state program every four years. The programs are evaluated based on performance benchmarks and given overall ratings of excellent, very good, good or needs improvement. Most programs have received marks of excellent or very good.

1998 Reauthorization of Sea Grant and the 1994 NRC Review

Sea Grant was last reauthorized in 1998. The legislation focused on recommendations of a 1994 National Research Council review of the program, including the recommendations to better define the roles of the National Sea Grant Office, Sea Grant College programs and the Sea Grant Review Panel. The NRC panel also recommended streamlining the process for reviewing proposals and evaluating the program. Congress rejected another NRC recommendation to remove Sea Grant from the Office of Oceanic and Atmospheric Research and allow it to report directly to the Administrator of NOAA.

Congress also rejected a recommendation to create separate line items in the Sea Grant budget for state programs, regional programs, national research initiatives, and the administrative costs of the national office. The NRC report also recommended that any new funding added to the program should be tied to the Sea Grant strategic planning process: "The National Sea Grant Office, in concert with state directors should not divide new monies among a multitude of small grants to all state programs. Instead, new monies might be devoted to a smaller number of larger grants awarded to the best proposal among the state programs."

The NRC report concluded that if necessary improvements were not made Congress should consider changes in the Sea Grant's authorizing legislation: "In this case, Congress might consider an alternative location for the Sea Grant program in order to ensure that the Nation's marine science objectives are met."

The President's FY 2003 Budget Request: Transfer Sea Grant to NSF

The President's FY 2003 Budget proposed that the National College Sea Grant Program be transferred to NSF to promote more rigorous, merit-based competition among researchers. NOAA and NSF would jointly manage the program, and NOAA would continue to play a role in identifying research priorities. NOAA's budget does not provide any money for Sea Grant; the $62.4 million it received in FY 2002 is eliminated as are the full-time employee positions associated with the program. NSF's FY 2003 budget request allocates $58 million for Sea Grant activities.

However, there is no specific language on how the program would be managed or what would become of Sea Grant's extension service. There is also no mention as to whether grants given under the program would continue to require the 2 to 1 federal/state match that is currently required for each project.

H.R. 3389 and Reauthorization of Sea Grant

On November 30, 2001, Representative Gilchrest introduced H.R. 3389. On December 6, 2001, the bill was marked-up by the House Resources Subcommittee on Fisheries, Wildlife and Oceans. The legislation amends the National Sea Grant College Act and extends the authorization for five years until fiscal year 2008. The bill would also increase authorization levels from $68.8 million in FY 2003 to $90 million in FY 2004. The bill provides an additional $2.5 million each year for FY 2005 through FY 2008 for a total $100 million. Included in this amount is an authorization of $15 million for research into zebra mussels, oyster disease and harmful algal blooms.

In the legislation, the House Resources Committee proposes to transfer the Coastal Ocean Research Program from the National Ocean Service to the Sea Grant program to eliminate the partially duplicative nature of the programs. The legislation separately authorizes $22 million for the Coastal Ocean Research Program for FY 2004. This amount rises by $2 million a year to $30 million in FY 2008. The legislation also revises and expands the terms of membership for the Sea Grant Review Panel.

The Coastal Ocean Program

The Coastal Ocean Program (COP) is a national, competitive grant program under NOAA's National Ocean Service. The program focuses on three areas: coastal fisheries ecosystems, cumulative coastal impacts, and eutrophication (or harmful algal blooms). The funding generally goes to projects that are long-term, regional or natural in scope, multidisciplinary, and interagency. In FY 2002, $21.5 million was appropriated to COP, and an additional $13 million from other NOAA programs. Unlike Sea Grant, there is no mandated matching requirement for COP grants. (H.R. 3389 preserves this aspect of the COP.)

An example of a COP project is the multi-agency effort to understand the Ecology and Oceanography of Harmful Algal Blooms (ECOHAB). NOAA, NSF, EPA, Navy, and NASA collaboratively sponsor the project to study harmful algal blooms (HABs) in the coastal waters of the U.S. The research will guide management of coastal resources to reduce HAB development, impacts, and future threats. One critical goal of the ECOHAB program is to develop reliable models to forecast bloom development, persistence, and toxicity.

In addition to H.R. 3389, on March 15, 2001, Representative Faleomavaega introduced H.R. 1071. The legislation increases the authorization level for Sea Grant to $100 million for FY 2003 and each year thereafter.

Sea Grant: Review and Reauthorization

Chairman EHLERS. I now call the Subcommittee on Environment and Technology and Standards to order. It is a pleasure to welcome everyone here on a very interesting and potentially controversial topic. I will proceed with my opening statement and then recognize my colleague from Michigan, Mr. Barcia, for his opening statement, and then we will proceed with the hearing.

I welcome the members and the public to today's hearing on the National Sea Grant College Program. This hearing will evaluate the President's proposal to transfer sea grant from the National Oceanic and Atmospheric Administration, better known as NOAA, to the National Science Foundation, known as NSF. In addition, we will review H.R. 3389, introduced by Mr. Gilchrest, which rejects the Administration's proposal by keeping Sea Grant within NOAA. That bill also moves the Coastal Ocean Program, which is currently housed inside of NOAA's National Ocean Service, into Sea Grant. This hearing will also consider issues associated with that proposed move.

Sea Grant has a distinguished history of providing small grants to university—and perhaps I should emphasize small—small grants to university researchers so they can investigate and answer important questions about our oceans, coasts, fisheries, and Great Lakes. Originally established in 1966 within the National Science Foundation and then moved to NOAA in 1970, Congress modeled Sea Grant after the well-established land grant university program. Sea Grant colleges were to serve as the marine counterparts to land grant colleges. And that is why I emphasized small grants a moment ago. The size of the grant is almost insignificant compared to the grants to land grant universities. And I hope someday we can improve that situation.

While Sea Grant has had measurable successes over the years, people have expressed concerns about how much, or little, support it has received from Congress, its peer-review process, and how funding is distributed across the country. Now, 36 years after its creation, the Administration seeks to address some of these concerns by bringing Sea Grant back to its NSF roots.

While most people seem to strongly oppose the transfer and have circled the wagons to defend the program and its current location, I believe the President's proposal, along with the reauthorization process, provides us with a great opportunity to more fully examine, and perhaps strengthen, the goals and purposes of the program. I strongly support the Sea Grant Program, and I want to use this opportunity to strengthen the program. However, this can only be accomplished through a truly honest review of the nature and goals of the Sea Grant Program and how to structure it to meet these goals. In short, if someone hands you a lemon, make lemonade. And we are going to try to use this opportunity for discussion of the Sea Grant Program to improve and strengthen the program.

This hearing today will provide us with this honest assessment which we are seeking. Today we will examine the roles of the state programs and the extension service and determine if the process by which Sea Grant allocates funding and conducts peer-review for grants needs to be improved, and if so, how.

I look forward to hearing from our esteemed Panel of witnesses today. I am particularly pleased to welcome a gentleman from my state of Michigan, Dr. Michael Donahue, President of the Grant Lakes Commission, who will discuss the interaction between states and the Sea Grant Program and how states utilize the extension service.

I am now pleased to recognize Congressman James Barcia, the Ranking Minority Member on this Subcommittee, for his opening statement.

[The prepared statement of Mr. Ehlers follows:]

PREPARED STATEMENT OF CHAIRMAN VERNON J. EHLERS

I welcome Members and the public to today's hearing on the National Sea Grant College Program. This hearing will evaluate the President's proposal to transfer Sea Grant from the National Oceanic and Atmospheric Administration (NOAA) to the National Science Foundation (NSF). In addition, we will review H.R. 3389, introduced by Mr. Gilchrest, which rejects the Administration's proposal by keeping Sea Grant within NOAA. H.R. 3389 also moves the Coastal Ocean Program, which is currently housed inside of NOAA's National Ocean Service, into Sea Grant. This hearing will also consider issues associated with that proposed move.

Sea Grant has a distinguished history of providing small grants to university researchers so they can investigate and answer important questions about our oceans, coasts, fisheries, and Great Lakes. Originally established in 1966 within the National Science Foundation and then moved to NOAA in 1970, Congress modeled Sea Grant after the well-established land grant university program. Sea Grant colleges were to serve as the marine counterparts to land grant colleges.

While Sea Grant has had measurable successes over the years, people have expressed concerns about how much (or little) support it has received from Congress, its peer-review process, and how funding is distributed across the country. Now, 36 years after its creation, the Administration seeks to address some of these concerns by bringing Sea Grant back to its NSF roots.

While most people seem to strongly oppose the transfer and have circled the wagons to defend the program, I believe the President's proposal, along with the reauthorization process, provides us with a great opportunity to more fully examine the goals and purposes of the program. I strongly support the Sea Grant program, and I want to use this opportunity to strengthen the program. However, this can only be accomplished through a truly honest review of the nature and goals of the Sea Grant program and how to structure it to meet these goals.

This hearing will provide us with this honest assessment. Today we will examine the roles of the state programs and the extension service and determine if the process by which Sea Grant allocates funding and conducts peer-review for grants needs to be improved, and if so how.

I look forward to hearing from our esteemed panel of witnesses today. I am particularly pleased to welcome a gentleman from my state, Dr. Michael Donahue, President of the Grant Lakes Commission, who will discuss the interaction between states and the Sea Grant program and how states utilize the extension service.

Mr. BARCIA. Thank you, Mr. Chairman. I want to say good morning, and welcome to this morning's hearing. I want to thank Chairman Ehlers for convening this hearing on the Sea Grant Program and the Coastal Ocean Program. These two programs have a proven track record of benefiting our coastal and Great Lakes regions.

The Michigan Sea Grant Program has supported research, education, and extension activities for over 30 years. Through the cooperative efforts of the University of Michigan and Michigan State University, the Sea Grant Program has served the diverse community of sportsmen, recreational users, state and local officials, and businesses that depend upon the Great Lakes.

Today, we will address two proposals for reorganizing the Sea Grant Program. The first is the Administration's proposal to move the Sea Grant Program to the National Science Foundation. The National Science Foundation is a fine organization and funds excellent research. However, NSF's mission to distribute Federal funds for basic research is different from the goals of the Sea Grant Program.

I am concerned that without Federal funding, the education and extension programs funded through Sea Grant will not survive. I am also concerned that there appears to have been no consultation between the Administration and Sea Grant's state and local partners during the development of this proposal. I am not defending the status quo for the Sea Grant Program. Any program, including a successful one, such as Sea Grant, benefits from thoughtful review and revision.

I hope our witnesses will provide us with suggestions on how to improve and strengthen the Sea Grant Program so that it will continue to serve our coastal and Great Lakes communities. Our colleagues on the Resources Committee have presented us with different reorganization proposals, moving NOAA's Coastal Ocean Program to the Sea Grant Program. Before we endorse or reject this proposed reorganization, we should understand the implications of merging these two programs with respect to the purposes of each program, the clients they serve, and the funding levels of coastal and Great Lakes research programs.

Our coastal oceans and Great Lakes are under increased pressure from invasive species, increased demand for seafood, expanded coastal development, and changing weather and climate conditions. In order to manage these vital resources properly, we need strong research, education, and extension programs that gather information and deliver it to resource managers and the diverse community of people using these resources if we are to continue to benefit from our coastal regions.

I want to thank the witnesses for appearing before the Subcommittee today, and I look forward to hearing your testimony. And also, welcome our colleague, the Honorable Robert Underwood, who will lead off the testimony. Thank you, Mr. Chairman.

[The prepared statement of Mr. Barcia follows:]

PREPARED STATEMENT OF REPRESENTATIVE JAMES A. BARCIA

Good morning and welcome to this morning's hearing. I want to thank Chairman Ehlers for convening this hearing on the Sea Grant Program and the Coastal Ocean Program. These two programs have a proven track record of benefiting our coastal and Great Lakes regions.

The Michigan Sea Grant Program has supported research, education, and extension activities for over 30 years. Through the cooperative efforts of the University of Michigan and Michigan State University the Sea Grant program has served the diverse community of sportsman, recreational users, state and local officials and businesses that depend upon the Great Lakes.

Today we will address two proposals for reorganizing the Sea Grant program. The first is the Administration's proposal to move the Sea Grant program to the National Science Foundation (NSF). The National Science Foundation (NSF) is a fine organization and funds excellent research. However, NSF's mission to distribute federal funds for basic research is different from the goals of the Sea Grant Program.

I am concerned that without federal funding the education and extension programs funded through Sea Grant will not survive. I am also concerned that there appears to have been no consultation between the Administration and Sea Grant's state and local partners during the development of this proposal. I'm not defending the status quo for the Sea Grant Program. Any program, including a successful one such as Sea Grant, benefits from thoughtful review and revision.

I hope our witnesses will provide us with suggestions on how to improve and strengthen the Sea Grant Program so that it will continue to serve our coastal and Great Lakes communities.

Our colleagues on the Resources Committee have presented us with different reorganization proposal, moving NOAA's Coastal Ocean Program to the Sea Grant Program. Before we endorse or reject this proposed reorganization, we should understand the implications of merging these two programs with respect to the purposes of each program, the clients they serve, and the funding levels of coastal and Great Lakes research programs.

Our coastal oceans and Great Lakes are under increased pressure from invasive species, increased demand for seafood, expanded coastal development and changing weather and climate conditions. In order to manage these vital resources properly we need strong research, education, and extension programs that gather information and deliver it to resource managers and the diverse community of people using these resources if we are to continue to benefit from our coastal areas.

I thank the witnesses for appearing before the subcommittee today, and I look forward to hearing your testimony

Chairman EHLERS. Thank you, Mr. Barcia. If there is no objection, all additional opening statements submitted by the Subcommittee members will be added to the record. Without objection, so ordered.

[The prepared statement of Ms. Morella follows:]

PREPARED STATEMENT OF REPRESENTATIVE CONSTANCE MORELLA

Chairman Ehlers, thank you so much for calling this important hearing regarding the Sea Grant program. The research that Sea Grant undertakes is of vital importance to us here in Maryland and I know how important it is in Michigan as well.

Sea Grant enables us to understand our complex coastal and marine environments and to develop these natural resources without overextending them. The United States' jurisdiction over marine environments is the largest of any country in the world and covers and area greater than the entire U.S. landmass. Proper stewardship of the vast resources contained within these waters is of great concern both to the economic and environmental health of our Nation and Sea Grant plays a pivotal role in the proper management of these areas. This is an important program and deserves to be reauthorized.

Within Maryland, Sea Grant plays a vital role in maintaining the Chesapeake Bay. As many of you know, we have sorely abused this resource and mismanaged it in the past. Sea Grant is providing the science needed to return the bay to its former health and productivity. Sea Grant is improving our understanding of key fisheries issues, including the renowned blue crab stock and the return of the oyster reefs, which provide important food stocks to the region and the country as a whole. Sea Grant plays a lead role in the control of invasive species by studying ways to control the spread to foreign aquatic life and microbial organism through ballast water and on ship hulls. And Sea Grant makes important contributions to the overall environmental condition by studying and monitoring various pollution and contamination issues throughout the entire watershed, such as urban runoff and industrial waste.

Sea Grant is also an important educational program. Maryland Sea Grant alone has supported more than 150 graduate research fellows and a similar number of undergraduate fellows. Other programs include research opportunities for high school students and outreach and educational efforts all the way down to kindergarten. Sea Grant also provides opportunities for public service, sponsoring programs which allow marine scientists to put their skills to practical use in government agencies and in the U.S. Congress. These programs provide a vital link between the policy makers and scientists and enrich the decision-making process.

I could go on. I haven't even come close to talking about all of the things Sea Grant does here in Maryland let alone the rest of the country. Suffice to say that this program impacts our Nation in a very profound and expansive way. It is important to both the economic and environmental health of our Nation and deserves our support. I have joined my distinguished colleague and fellow Maryland representative Mr. Gilchrest in cosponsoring H.R. 3389 which would reauthorize the Sea Grant program and I urge the members of the Science Committee to do the same. Thank you.

[The prepared statement of Mr. Smith of Michigan follows:]

PREPARED STATEMENT OF REPRESENTATIVE NICK SMITH

I would like to thank Chairman Ehlers for holding this hearing today to examine the National Sea Grant program. The proposed transfer of the Sea Grant program in the President's budget from NOAA to NSF has stirred significant discussion. The arguments both for and against the change seem to have some degree of merit. I hope that today's hearing will provide the Committee with a better understanding of the details of the Administration's proposal so that we can decide how best to proceed.

While this program was originally housed at NSF in the 1960's, it was transferred from NSF when NOAA was created. In my home state of Michigan, which borders 4 of the 5 Great Lakes, there are obviously a great many marine challenges. Sea Grant's contributions to these problems over the years have been very valuable, not only through important problem-solving research, but also through education and extension functions.

Still, the National Sea Grant program has faced continued criticism that it is not operating optimally. A 1994 National Research Council study concluded that Sea Grant had a slow, un-standardized funding process that lacked standard scientific and peer review. Because NSF has an exemplary record at overseeing this type of competitive research funding, it is understandable that the Administration has proposed the agency be transferred. I hope that this hearing will help us to sort through the problems at Sea Grant and better realize how they should be addressed.

[The prepared statement of Wayne Gilchrest follows:]

PREPARED STATEMENT OF REPRESENTATIVE WAYNE GILCHREST

I want to thank Chairman Ehlers for the holding this hearing today on H.R. 3389, a bill I introduced to reauthorize the existing Sea Grant program for five years. That bill has been ordered reported from the Resources Committee, and I look forward to working with my colleagues on this committee to get that measure to the Floor quickly.

The National Sea Grant College Program was established in 1966 to improve marine resource conservation, management, and utilization. The program is patterned after the Land Grant College Program which includes an extension and education component to assure that research findings are provided in a useful way to resource users and managers. Currently, there are 30 Sea Grant College programs that represent a network of researchers, educators and marine advisory agents at over 300 academic institutions.

Over the last 30 years, Sea Grant has developed into a unique consortium of researchers, outreach specialists, and educators. Their efforts are crucial in protecting and enhancing our coastal and Great Lakes resources. Therefore, I oppose the Administration's transfer of Sea Grant's budget authority to the National Science Foundation.

Additional basic research dollars to help us understand the natural environment are always needed. However, we gain nothing if those dollars are reallocated at the expense of the one Federal program that couples extension and education activities with marine resources research.

Sea Grant receives roughly six percent of the funds provided to Land Grant activities. I look forward to hearing Admiral Lautenbacher's explanation today of why the Administration believes that improving the conservation and management of our Nation's coastal, ocean and Great Lakes resources are not deserving of an appropriation similar in scale to funds provided for programs that improve the efficiency of agribusiness.

Again, let me thank the Chairman for holding this hearing. I look forward to working with him on this bill, and to hearing the testimony from the witnesses this morning.

[The prepared statement of Representative Felix Grucci follows:]

PREPARED STATEMENT OF REPRESENTATIVE FELIX GRUCCI

My district is home to the New York Sea Grant College program, of which I am extremely proud. Housed at the State University of New York at Stony Brook and in partnership with Cornell University, this program has conducted cutting edge research on many marine issues throughout the First Congressional District of New York. Recently, we experienced a severe die-off of lobsters in the Long Island Sound, a situation that had a serious effect on my constituents and the local economy. New York Sea Grant has also studied seafood safety and barrier beach breaches and the surrounding ecosystem, as well as many various marine science projects. New York Sea Grant extension and research specialists collaborated to produce a report on the *Economic Contribution of the Sport Fishing, Commercial Fishing, and Seafood Industries to New York State*, estimating the combined economic contribution of these three industries at approximately $11.5 billion in New York State. As you can see, the research done at New York Sea Grant is crucial to not only the natural resources but also the economic wellbeing of my constituents.

First, let me state my confidence and support for the National Science Foundation. NSF is a terrific scientific agency with an esteemed peer review process. However, by law, the scope of NSF"s scientific research remains national. The Sea Grant College program has a successful federal-state partnership that allows for attention to both national and local research issues.

The proposed move of the Sea Grant program from NOAA to NSF concerns me as more research is ongoing at Sea Grant. If removed from NOAA, would Sea Grant be competing for research monies with other competitive grant applications? If so, would this be at the detriment of good, focused oceanic research? I am concerned that grants for lobster research or brown tide would be competing for dollars with physicists and biologists. Do you have any comments?

Furthermore, Sea Grant's ability to conduct extension activities strengthens its purpose and establishment. Would moving Sea Grant out of NOAA risk these extension efforts?

Chairman EHLERS. We have a very distinguished Panel of witnesses and our very distinguished first Panel consists of the Honorable Robert Underwood. I am very pleased to have you with us today and thank you for attending. We look forward to your testimony.

PANEL I

STATEMENT OF HON. ROBERT A. UNDERWOOD, A REPRESENTATIVE IN CONGRESS FROM GUAM

Mr. UNDERWOOD. I thank you, Mr. Chairman, and other members of the Committee, as well as my own chairman, Chairman Gilchrest, from Resources. I want to thank you for allowing me to speak on H.R. 3389, a bill to reauthorize the National Sea Grant College Program Act. I would like to express my very strong opposition to the Administration's plan to move the National Sea Grant College Program from the National Oceanic and Atmospheric Administration, or NOAA, to the National Science Foundation.

As the Ranking Member of the Subcommittee on Fisheries, Conservation, Wildlife, and Oceans, I am directly involved with the oversight of programs that are vital to the interests and jurisdiction of the Resources Committee, including programs at NOAA. And the National Sea Grant College Program is one of them.

Since 1966, the National Sea Grant College Program has promoted applied marine research, education, outreach, and extension services. The program sponsors important peer-reviewed academic research, transfers technology and results from this research to industry and management agencies, and acts to educate the public about marine and coastal issues. Sea Grant also achieves significant environmental and economic results through partnerships among scientists, industry, and the government.

Considering the widespread success and support for the National Sea Grant College Program, I am amazed that the Administration has chosen to cut funding and transfer Sea Grant from NOAA to the NSF. Many researchers believe that Sea Grant's priorities on applied research, outreach, and education are incompatible with the current goals of the National Science Foundation. Simply put, the decision to transfer Sea Grant to NSF doesn't make much sense.

I appreciate that I am joined by many of my colleagues in Congress, especially the Chairman and Ranking Democrat Member of the Resource Committee, in support of both the reauthorization of the Sea Grant College Program and in strenuous opposition the transfer of the National Sea Grant College Program from NOAA to NSF. To these ends, it is important for Congress to act expeditiously to pass H.R. 3389 and reauthorize the National Sea Grant College Program. Reauthorization, at this time, I think, would reaffirm our strong intention to maintain the National Sea Grant College Program as a vital extramural research program within NOAA.

Mr. Chairman, since—so that there is no misunderstanding about my support for the NSF, allow me to clearly state that I approve of and respect their mission and the work of NSF scientists. They have done an excellent job on many studies relating to the Pacific Islands and I will continue to support full funding for NSF.

However, like many of you, I believe that the national interest is best served by keeping Sea Grant in NOAA. Thus, I urge all members of the Science Committee to support the legislation to reauthorize Sea Grant, which was passed yesterday by the unanimous vote of the Resources Committee.

I realize that there are certain provisions in the legislation which may require further refinements, which is perfectly understandable. I look forward to working cooperatively with the members of the Science Committee in shaping the strongest possible bill to bring before the House. And I certainly endorse your efforts, Mr. Chairman, and the Ranking Member, to examine this proposal in great detail. There is nothing wrong with certainly looking at it and taking this as an opportunity to, in fact, make the Sea Grant Program stronger. Thank you very much for this.

[The prepared statement of Mr. Underwood follows:]

PREPARED STATEMENT OF CONGRESSMAN ROBERT A. UNDERWOOD

I want to thank you for allowing me to speak on H.R. 3389, a bill to reauthorize the National Sea Grant College Program Act. I would like to express my strong opposition to the Administration's plan to move the National Sea Grant College Program from the National Oceanic and Atmospheric Administration, or NOAA to the National Science Foundation.

As the Ranking Member of the Subcommittee on Fisheries Conservation, Wildlife, and Oceans, I am directly involved with the oversight of programs that are vital to the interests and jurisdiction of Resources Committee, including programs at NOAA. The National Sea Grant College Program is one of them.

Since 1966, the National Sea Grant College Program has promoted applied marine research, education, outreach and extension services. The program sponsors important peer-reviewed academic research, transfers technology and results from this research to industry and management agencies, and acts to educate the public about marine and coastal issues. Sea Grant also achieves significant environmental and economic results through partnerships among scientists, industry, and the government.

Considering the widespread success and support for the National Sea Grant College Program, I am amazed that the Administration has chosen to cut funding and transfer Sea Grant from NOAA to the National Science Foundation.

Many researchers believe that Sea Grant's priority on applied research, outreach, and education are incompatible with the current goals of the National Science Foundation. The decision to transfer Sea Grant to NSF simply doesn't make sense.

I appreciate that I am joined by many of my colleagues in Congress, especially the Chairman and Ranking Democrat Member of the Resources Committee, in support of both the reauthorization of the Sea Grant College Program and in strenuous opposition to the transfer of the National Sea Grant College Program from NOAA to NSF.

To these ends, it is important for the Congress to act expeditiously to pass H.R. 3389 and reauthorize the National Sea Grant College Program. Reauthorization at this time would reaffirm our strong intention to maintain the National Sea Grant College Program as a vital extramural research program] within NOAA.

Mr. Chairman, so that there is no misunderstanding about my support for the National Science Foundation, allow me to clearly state that I approve and respect their mission and work of NSF scientists. They have done an excellent job on many studies relating to the Pacific Islands, and I will continue to support full funding for NSF.

However, like many of you, I believe that the national interest is best served by keeping Sea Grant in NOAA.

Thus, I urge all members of the Science Committee to support the legislation to reauthorize Sea Grant which was passed yesterday by the unanimous vote of the Resources Committee.

I realize that there are certain provisions in the legislation that might require further refinements which is understandable. I look forward to working cooperatively with the members of the Science Committee in shaping the strongest possible bill to bring before the House.

Thank you, Mr. Chairman

Chairman EHLERS. Thank you for your testimony, Congressman Underwood, and I appreciate your comments. As a representative of Guam you probably have more coastline and certainly more ocean per acre of land than any other Member of the Congress.

Mr. UNDERWOOD. Well, you know, they—one of the things that is always mentioned about the importance of the oceans is that it is frequently stated that—I think the statistic is that some 50 to 60 percent of the population lives within 50 miles of the coastline. I am proud to say that in Guam 100 percent of the people live within 4 miles of the ocean.

Chairman EHLERS. Yes. It is a very strong determinant in your life, I am sure. Well, thank you very much for being here.

Mr. UNDERWOOD. Thank you.

Chairman EHLERS. I would just like to explain to the audience, although we have—we question all other witnesses, when Members of Congress appear, we don't do that because we can question them——

Mr. UNDERWOOD. What a relief.

Chairman EHLERS. We can ask them questions any time later on. Thank you very much for appearing here.

Mr. UNDERWOOD. Thank you.

Chairman EHLERS. I now ask the panel to assemble at the witness table. Thank you, Mary. At this time, I would like to introduce our witnesses. Vice Admiral Conrad C. Lautenbacher, Jr., Under Secretary of Commerce for Oceans and Atmosphere of the National Oceanic and Atmospheric Administration. He has had a distinguished career in the Navy, of course, but also has been active since leaving the Navy and ocean-related issues.

Next, Dr. Russell Moll, Director of the California Sea Grant College Program, which was housed at the University of California at San Diego, a very fine institution located close to the Scripps Institute, which was headed by my thesis advisor for some years. He is also former head of the Michigan Sea Grant Program for 20-plus years, indicating that all good things come from Michigan. And I have to say both the Chairman and the Ranking Member agree on that statement.

Next, we are pleased to introduce Mary Hope Katsouros, Senior Fellow and Senior Vice President at the H. John Heinz, III Center for Science, Economics, and the Environment. And we appreciate having you here.

Next, we have Dr. Nancy Rabalais, Professor, Louisiana Universities Maine Consortium, and very active in this field as well.

I am now pleased to yield to Congressman Lynn Rivers, who will introduce our final witness, a resident of her district. Is your microphone on?

Ms. RIVERS. Now it is. Thank you. It is my pleasure to introduce Dr. Michael Donahue, who is President and CEO of the Great Lakes Commission, a bi-national agency serving the Great Lakes states and provinces in the area of policy, research, development, and advocacy on a range of environmental protection, resource management, and economic development issues. He has served in this capacity since 1987. His responsibilities include strategic planning, regional advocacy, program development and oversight, intergovernmental relations, and administration. Prior to this appointment, Donahue held senior management research positions with the Center for the Great Lakes, the Great Lakes Basins Commission, and various departments of the University of Michigan.

He is also Chairman of the International Joint Commission Science Advisory Board, a member of the U.S. Army Corps of Engineers Environment Advisory Board, and a member of the Michigan Sea Grant Advisory Board. We are very pleased to have him here today.

Chairman EHLERS. I thank you, Congresswoman Rivers. As our witnesses have been told, and already know, spoken testimony is limited to five minutes each. After that, the members of this Committee will each have five minutes to ask questions of you. We will plan on one round of questions. If we decide we need a second round, we will continue with the questioning.

I would also mention that the House is in session. We expect some votes this morning. If you hear the bells ringing, be aware that Members of Congress have a Pavlovian response to bells ringing. They rush to Floor and they vote. But we will return as soon as possible if that happens.

We will start our testimony with Admiral Lautenbacher.

PANEL II

STATEMENT OF VICE ADMIRAL CONRAD C. LAUTENBACHER, JR., UNDER SECRETARY OF COMMERCE FOR OCEANS AND ATMOSPHERE, NATIONAL OCEANIC AND ATMOSPHERE ADMINISTRATION

Vice Admiral LAUTENBACHER. Chairman Ehlers, Congressman Barcia, distinguished members of the Subcommittee, and the very capable staff that you have, thank you very much for the opportunity to appear and to discuss this very important issue this morning. I will be very brief. I ask that my statement be entered for the record. And in it you will find basically a reiteration of the reasons for this transfer that have been put forward by the Office of Management and Budget and the Department of Commerce in our submissions to you. So there is nothing new in this statement in terms of the rationale for why the budget appears the way it does. So let me be very brief.

I think the Administration came down on the side, looking at the pros and cons, that the management of research, from that perspective, looking at the way NSF—the successes NSF has had in the past, and the value of incorporating it into a larger effort where it can be integrated into all of the things that NSF does and managed in a very efficient manner from their standard formula for managing research. That that would be a much better way to get maximum benefit from the dollar.

And for my part, the program remains in NOAA for this year, for fiscal year '02. I am a supporter of the program. I believe the goals and the missions and the functions are important, and I intend to manage the program and carry out those in accordance with the intent of the President and Congress as so stated in the current authorizations.

And with that, I would like to yield the rest of my time so we can spend it with questions, sir. Thank you very much.

[The prepared statement of Vice Admiral Lautenbacher follows:]

PREPARED STATEMENT OF VICE ADMIRAL CONRAD C. LAUTENBACHER, JR.

Good morning, Chairman Ehlers, Members of the Subcommittee, and staff. I am Conrad C. Lautenbacher, Under Secretary for Oceans and Atmosphere and Administrator of the National Oceanic and Atmospheric Administration (NOAA). I have been invited to speak to you today about H.R. 3389, the "National Sea Grant College Program Act Amendments of 2001," and the Administration's proposal to transfer funding for the National Sea Grant College Program from NOAA to the National Science Foundation (NSF).

Today, I would like to begin by explaining the Administration's proposal. The Sea Grant program plays an important role in marine and coastal research and is a cost-effective way to address new problems in marine research management. The Administration believes the program's full potential can best be realized by transferring it to NSF. Under the Administration's proposal, the current Sea Grant structure would be replaced with a university-based coastal and ocean program modeled after the NSF centers, with input from researchers, educators and practitioners, through workshops. NSF will retain the Sea Grant College designation for qualified centers. The program will be open to all public and private institutions of higher education through a fully competitive process. This process will ensure that the highest quality, most relevant research is funded. NSF also has a lower matching requirement, so state and local funds will be freed up to address outreach and extension needs of local communities. NOAA will continue to be an active partner in the administration of the program and will have a strong role in setting research objectives for the program. To ensure the program transfer does not adversely affect current awardees, NSF will transfer funds to NOAA to support the current award commitments through the duration of their grant period.

Several studies of the Sea Grant Program have noted its effectiveness, as well as its problems. In 1994, the National Research Council (NRC) found that NOAA's Sea Grant Program has played a significant role in U.S. marine science, education, and outreach. This study also pointed out some concerns and provided recommendations for improving program effectiveness. The review's recommendations included better defining the roles of the National Sea Grant Office, the Sea Grant College programs, and the Sea Grant Review Panel, and streamlining the proposal review and program evaluation processes. Many of the recommendations of the NRC report have been adopted by the program and were also incorporated in the 1998 Amendments to the National Sea Grant College Program Act. In a November 2000 study, entitled "A Mandate to Engage Coastal Users," a committee led by Dr. John Byrne of Oregon State University and the Kellogg Commission indicated Sea Grant has been effective in facilitating the Nation's sustainable development of coastal resources by helping citizens make better informed and wiser decisions. Twenty-two of the 30 state Sea Grant Programs have undergone performance evaluations by teams of outside reviewers and Sea Grant peers. Sixteen were graded "excellent" in achieving significant results. A program was graded "excellent" if it produced significant results, connected Sea Grant with users, and was not found to need improvement in areas such as long-range planning and management. Sea Grant's 1999 Hammer Award-winning program in seafood safety training and the national marina management effort are examples of other successful national programs.

Through the years, a number of successful partnerships have been established between NOAA and the National Science Foundation (NSF), such as the Teacher-at-Sea Program, our partnerships with NSF on the U.S. Global Change Research Program and the U.S. Weather Research Program, as well as the Study of Environmental Arctic Change (SEARCH) program. NOAA and NSF are both committed to excellent science and the creation of productive partnerships. There is concern that the Sea Grant program will lose its applied focus because NSF has a stronger orientation toward funding basic research. However, NSF currently supports some applied research programs, such as the Small Business Innovation Research and Technology Transfer programs.

The Administration's proposal to transfer funding for the Sea Grant Program from NOAA to NSF includes a decrease of 20 Full Time Equivalents (FTE) and $62.4 million in NOAA; of that amount, $57 million would be requested by NSF. In this proposal, the current Sea Grant structure, which funds centers largely on a formula basis, would be replaced with a university-based coastal and ocean program. Under the proposal, federal funding for the extension component of Sea Grant may be reduced and extension would not be administered by NSF. However, lower matching requirements will free up state and local funds to cover outreach and extension needs of local communities. The details of the partnership proposal have not been finalized at this time, and we are working with NSF to ensure an appropriate role for NOAA. As noted previously, we expect NOAA will have a key role in establishing research priorities.

As amended, H.R. 3389 would increase authorization levels for Sea Grant to $112 million in Fiscal Year 2004. It also makes organizational changes within NOAA, including transferring NOAA's Coastal Ocean Program from the National Ocean Service to the Sea Grant Program. An amendment, offered by Delegate Underwood in the House Resources Subcommittee, would authorize an additional $2.7 million in funding and technical assistance over a three to five-year period for the Western Pacific Island Consortium. The current Sea Grant Program Act (P.L. 105–160), which expires in Fiscal Year 2003, authorizes $67.8 million for Sea Grant in Fiscal Year 2002 and $68.8 million in Fiscal Year 2003.

The Administration appreciates the interest that Congress has shown in Sea Grant and looks forward to working with Congress on a Sea Grant program that is consistent with the Administration's budgetary and policy goals. The Administration's position is that NSF needs no additional statutory authority to manage a new marine science program. As you are aware, the Administration is interested in identifying ways to further promote merit-based competition and improve the effectiveness of Federal science programs. NOAA's participation as a partner in this program will ensure that research objectives continue to reflect the agency's marine resource management priorities.

The Administration does not support language that would transfer the Coastal Ocean Program from the National Ocean Service to the Sea Grant Program. NOAA is engaged in an agency-wide programmatic review, and the Administration believes it would be premature to undertake any further reorganization until that review is completed.

The Administration also does not support an amendment in H.R. 3389, by Delegate Underwood, to authorize appropriations for the development and approval of a Sea Grant Regional Consortium for the Pacific Islands, independent of the University of Hawaii Sea Grant College Program. Under 33 U.S.C. §1124, "the Secretary may make grants and enter into contracts. . .to assist any sea grant program or project if the Secretary finds that such program or project will (1) implement the objective set forth in section [33 U.S.C. §1121(b)] and (2) be responsive to the needs or problems of individual States or regions." "State" is defined in 33 U.S.C. §1122 as "any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Mariana Islands, or any other territory or possession of the United States." Existing law already authorizes the Secretary to carry out a program as contemplated in the Underwood amendment. Moreover, the authorizing of appropriations for one specific Sea Grant program or region would be unprecedented and could have the potential to politicize the Sea Grant program. Finally, NOAA already has the authority to award grants under 33 U.S.C. §1124 and, in fact has done so, directly to the University of Guam, independent of the University of Hawaii Sea Grant College Program.

In closing, Mr. Chairman, I would like to emphasize my strong belief that partnerships and teamwork are crucial to success for every government department and agency. NOAA is no exception to this philosophy. Pending a final decision concerning the plan to transfer Sea Grant, we will make every effort to ensure that the program continues to thrive. In the spirit of teamwork and partnership, we will embrace whatever changes may come our way. Until such a move is made, Sea Grant will operate within NOAA in the same professional manner that it has in the past.

Mr. Chairman, this concludes my testimony. Thank you for the opportunity to be here today. I look forward to answering any questions you or Members of the Subcommittee may have.

Chairman EHLERS. Thank you, Admiral Lautenbacher. And I commend you for not using your allotted five minutes. Everyone else now wants your—wants to split it. I will tell you that you have this little device on the table with the lights. And when it is green, your are in your first four minutes; yellow, your last minute; red, your time has expired. And you—if you continue much beyond that, a hidden trap door opens and you will find yourself testifying to the Energy and Commerce Committee, which is one floor down. Next, I am pleased to recognize Dr. Moll.

STATEMENT OF DR. RUSSELL A. MOLL, DIRECTOR, CALIFORNIA SEA GRANT COLLEGE PROGRAM, UNIVERSITY OF CALIFORNIA SAN DIEGO

Dr. MOLL. When do the five minutes start? Mr. Chairman, Congressman Barcia, and esteemed members of the Subcommittee, it is my pleasure to provide testimony this morning. Let me add one more credential to my background for my introduction. I served for two years as a program officer in the National Science Foundation, working in the Biological Oceanography Program.

Let me talk about a couple of things to help get us grounded in the issues that are before us. I want to briefly cover some of the background about Sea Grant and then turn to the proposed move of Sea Grant to the National Science Foundation, and then very briefly to the movement of the Coastal Ocean Program to Sea Grant.

In general, Sea Grant has been a wonderful program that has thrived on its balance of research, extension, and education. It is a priority-driven program, and the priorities are both local, state, and national. It is broadly based. It supports more than 3,000 researchers at 300 universities. Sea Grant includes a matching provision. For $2 Federal support, it is a $1 for local support. This matching provision, in my mind, is very important in establishing the partnerships that make Sea Grant thrive.

Some of the national priorities that have fallen to Sea Grant, and from which it obtains a well-deserved reputation of leadership, are things like seafood safety, aquaculture, marine biotechnology, and nonindigenous species.

In making decisions about investing Sea Grant research funds, we strongly use a peer-review process. Many of those processes were derived from the National Science Foundation. And that peer review is conducted both on the local basis, at the state programs, and well as the national programs.

And, finally, let me add that Sea Grant programs themselves are undergoing reviews. Once every four years, each Sea Grant program undergoes an external review.

Now, in regard to the proposed transfer of Sea Grant to the National Science Foundation, let me begin by saying no matter where in the government Sea Grant should end up, those elements that comprise its strength should be maintained. Those strengths are, as I just said, the partnership aspect, the interweaving of research and outreach, and the focus on coastal marine and Great Lakes issues.

A couple of things to bear in mind. Sea Grant is currently authorized through Public Law 105–160 for five years to remain within NOAA. H.R. 3389 reauthorizes Sea Grant for another five years within NOAA. And, most important, that the President's Commission on Ocean Policy is reviewing the Federal structure of the marine programs in the Federal Government and it seems to make sense to wait for that report before we do anything.

Considering these things, the Sea Grant Association, which speaks for the 30 Sea Grant programs, makes the following recommendations about the transfer of Sea Grant to the National Science Foundation. There should be no change in the mission, structure, and function of Sea Grant until the Ocean Commission releases its report, and that means no change in the location of Sea Grant. And no matter where Sea Grant should ultimately end up residing in the government, again, those elements that lead to its success should be preserved.

A couple of personal observations from working at NSF. NSF is not particularly well-vested in the outreach activities that lead to Sea Grant's strengths. In the past five years, Sea Grant has capitalized greatly on the NSF peer-review process. But we have been able to do that without the wholesale transfer of Sea Grant to the National Science Foundation.

NSF has made it clear they are unlikely to support the matching provision that currently is part of Sea Grant. And NSF has made it clear that Sea Grant would not necessarily be a coherent program, but rather just spread among several different divisions. And that could compromise a very valuable Sea Grant network.

Turning briefly now to the transfer of—or the merger of the Coastal Ocean Program with Sea Grant, I think there is some positive merit in this if it is done in a constructive and valuable manner. That would include maintaining the integrity of both programs.

Some of the benefits might be, for example, the Coastal Ocean Program could gain, through working with Sea Grant, a strong outreach function. Sea Grant could gain, by working through the Coastal Ocean Program, a stronger regional and national focus on research. The United States could gain by having a more coherent and better organized coastal ocean—Coastal Research Program within NOAA. But, again, the integrity of both Sea Grant and the Coastal Ocean Program should be maintained when we consider any such move.

I thank you for providing me the opportunity to make my comments before you today, and I look forward to answering your questions.

[The prepared statement of Dr. Moll follows:]

PREPARED STATEMENT OF RUSSELL A. MOLL

Mr. Chairman and Members of the Committee:

Thank you for the opportunity to provide testimony regarding the National Sea Grant College Program and the network of Sea Grant Colleges that it encompasses. In developing this testimony, I have drawn upon my experiences as Director of California Sea Grant, Director Michigan Sea Grant and as a Program Officer in the Division of Ocean Sciences, National Science Foundation. I have also discussed several issues at length with my counterpart Sea Grant Directors, many members of the marine research community, and informally with staff at the National Science Foundation and National Oceanic and Atmospheric Administration (NOAA).

In this testimony I wish to cover three key issues currently before the Science Committee: the proposal by the Bush Administration to transfer Sea Grant to the National Science Foundation, the proposal to transfer the Coastal Ocean Program to Sea Grant and the establishment of new Sea Grant Programs.

The proposed transfer of Sea Grant to the National Science Foundation is by far the most important of the three and hence the primary focus of this testimony. In considering such a move, I believe the underlying premise should be to recognize and preserve the highly valued aspects of Sea Grant no matter where it resides within the Federal infrastructure. Unlike other federal programs that support Great Lakes, coastal and marine research, Sea Grant has unique elements that have allowed it to flourish since its inception in 1966.

Background on Sea Grant

As part of NOAA in the U.S. Department of Commerce, the National Sea Grant College Program engages the Nation's top universities in conducting scientific research, education, training, and extension projects designed to foster science-based decisions about the use and conservation of our coastal, marine, and Great Lakes resources. Sea Grant's mission of enhancing the practical use and conservation of these resources to create a sustainable economy and environment is achieved by:

- Conducting priority-driven and peer-reviewed research to solve environmental problems and create economic opportunities through partnerships with coastal residents, businesses and industry, and local, regional, state and federal agencies.
- Transferring scientific research results to these constituencies and others through its nationwide extension program.
- Providing training opportunities for K–12 teachers to bring the sciences into the classroom and for undergraduate and graduate students to be mentored by senior researchers.
- Informing the public about marine and coastal issues through Sea Grant communications and education programs.

The 30 university-based Sea Grant programs serve as the core of a dynamic national network of more than 300 participating institutions involving more than 3,000 scientists, engineers, outreach experts, educators, and students. The Sea Grant network addresses key issues and opportunities in areas such as aquaculture, aquatic nuisance species, marine biotechnology, seafood safety, fisheries management, coastal business and development, coastal habitat, water quality, and coastal hazards. While these topics are not the unique province of Sea Grant, the program has a well-deserved reputation as the national leader among these highly important topics.

Sea Grant is an issues- and results-based program, with remarkable achievements throughout its history (see appendix for examples of Sea Grant impacts). Sea Grant's integrated approach of applying scientific research, education and training, technical assistance and outreach focused on marine, coastal, and Great Lakes issues along America's coast truly represents "Science Serving America's Coast." By basing all its activities on sound rationale, meritorious science, and application of results, Sea Grant has contributed greatly to the economic and environmental sustainability of America's coastal resources and the education of its human "capital."

Sea Grant represents a terrific value for the investment of federal funds. Sea Grant programs are required by law to match $1 in non-federal funds for every $2 of federal investment. Actual revenues spent on Sea Grant activities nationwide from all sources totaled $108 million for fiscal year 2001 in contrast to the federal appropriation that year was $62.25 million. This highly leveraged investment in Sea Grant is crucial to ensure appropriate federal, state; local, university, and private-sector efforts to support and enhance our coastal economy while conserving and protecting the natural resource base upon which it depends.

Sea Grant Competitiveness and Program Review

All Sea Grant research, outreach, and education efforts are subject to a consistent scientific peer-review process across all national and state Programs. During 2000/2001, 2,249 proposals were submitted across all Sea Grant competitions. Following a rigorous peer review process, 520 projects were funded, a success rate of 22 percent. The turnover rate in principal investigators was 70 percent from the previous biennium. These are statistics that are similar to those of the Division of Ocean Sciences within the National Science Foundation. All Extension, Communication and Education programs are proposal-based and peer-reviewed. In 1998, the National Sea Grant College Program implemented a rigorous external review process of each of the 30 Sea Grant programs once every four years. This performance review evaluates each Sea Grant program on its management, peer review procedures, strategic planning processes, the significance of results produced, and how results are received and used by stakeholders.

Comments in Regard to the Proposal to Transfer Sea Grant to the National Science Foundation

In developing a position on the proposal to transfer Sea Grant to the National Science Foundation, I have worked extensively through the Sea Grant Association (SGA) an organization that represents more than 30 institutions that host Sea Grant programs. Below follows a brief statement of principles by the SGA on Sea Grant followed by specific recommendations regarding the proposed transfer.

Sea Grant Association Principles on the National Sea Grant College Program: The Sea Grant Association believes that that integrity of the National Sea Grant College Program must be maintained:

- Sea Grant must remain a partnership program among the Nation's premier universities and laboratories, federal, state, and local governments, the private sector, and the public. Sea Grant's partnerships make the program stronger, reduce costs, and address real world problems and opportunities.
- Sea Grant must continue to utilize an integrated approach involving peer reviewed research, directed education, technical assistance and extension to identify and deliver needed products and services to citizens, industry and government. Sea Grant's extension and education programs maximize the value of its research and its research maximizes the value of outreach.
- Sea Grant must continue to focus its resources on the Nation's diverse coastal, marine, and Great Lakes economic, environmental, and education needs. The huge pressures of coastal population growth in the United States will only increase the demand for Sea Grant's research products and services.

Sea Grant Association Position on the Proposed Transfer: The transfer of the National Sea Grant College Program to the National Science Foundation is proposed in the President's FY03 budget. While the intellectual merits of such a transfer are being considered, it is important to recognize that:

- Congress passed Public Law 105–160 in 1998 to authorize the National Sea Grant College Program through FY 2003. This legislation was passed with the unanimous consent of Congress. Over 100 members of the House of Representatives and over 20 members of the Senate co-sponsored the legislation. The bipartisan support for this legislation continued Sea Grant as a part of NOAA within the U.S. Department of Commerce.
- Recently introduced reauthorization legislation (H.R. 3389) for the National Sea Grant College Program is pending in Congress. This bill will continue the program for five years within NOAA based on its current structure, conduct and performance.
- The U.S. Commission on Ocean Policy, appointed by the President in December 2001, will be issuing major recommendations within 18 months that affect all ocean-related federal agencies, including NOAA, its status as a federal agency, and the placement of its programs, both within and outside of NOAA.

Therefore, the Sea Grant Association believes that:

- No change should be considered in mission, structure, and function of the Sea Grant program, and the location of the National Sea Grant College Program, pending the completion of these processes.
- For Sea Grant to be successful, it requires a location in the Federal Government that encourages partnerships among academia, government, industry

and the public, that allows for the combined use of research, education and outreach, and that focuses on education, the economy and the coastal environment.

- Sea Grant also must be positioned in the government at an adequately high level to enhance its effectiveness and efficiency.

Additional Comments on the Proposed Transfer: Beyond the positions expressed by the Sea Grant Association, I wish to offer several additional comments on the proposed transfer of Sea Grant to the National Science Foundation (NSF).

- NSF does not have an extensive outreach program in comparison to its research portfolio. A transfer of Sea Grant that would greatly diminish the value of Sea Grant outreach is not in the best interest of the public.
- Similarly, NSF education activities tend to be generic versus the more hands-on, project-specific approach used by Sea Grant. Again, a transfer of Sea Grant to NSF should not come at the cost of reducing the highly regarded Sea Grant activities in coastal, marine and Great Lakes education.
- The peer review processes used by the NSF is the gold standard among federal agencies. In the past five years Sea Grant has benefited greatly from incorporating many of the NSF processes into its own review procedures. However, that transfer of knowledge is not predicated on wholesale movement of Sea Grant.
- A move of Sea Grant to NSF could signal the end of the matching funds that has been so effective at building local partnerships.
- While many of the investigators supported by Sea Grant axe also supported by NSF and vice-versa, there is not a great deal of overlap in the nature of the research supported by each organization.
- A fundamental strength of Sea Grant is its national network. A Sea Grant program based in NSF but distributed among several divisions would seriously undermine the value of the Sea Grant national network.
- Sea Grant involves several administrative layers that are not usually found within NSF sponsored programs and centers. Sea Grant could benefit from learning from NSF how to remove some of those layers from NSF while preserving its basic structure.

Each of the above items points toward a careful consideration of any transfer of Sea Grant. Again, because we expect a set of recommendations on marine research and education from the Commission on Ocean Policy, I highly encourage keeping Sea Grant at its present location in NOAA as proposed in H.R. 3389 pending the arrival of those recommendations.

Comments in Regard to the Proposal to Transfer the Coastal Ocean Program to Sea Grant

Situation and Background: In the recently introduced H.R. 3389, a bill to reauthorize the NOAA National Sea Grant College Program proposes to also authorize the NOAA Coastal Ocean Program (COP) within the National Sea Grant College Program.

Sea Grant conducts priority-driven research, transfers scientific results to the public, provides educational opportunities from K–12 to graduate degrees, and conducts successful outreach programs. Sea Grant is a partnership among academia, government, and the private sector, using a combination of research, education and outreach to improve the Nation's economy and the coastal, marine, and Great Lakes environment. Sea Grant serves a broad constituency at the state and regional levels, through coordinated activities designed to address national issues by solving problems and creating opportunities in areas such as fisheries, aquaculture, ecosystems and habitat, ocean engineering, coastal hazards, marine biotechnology, urbanization, community development, and marine education.

The COP supports national and regional research programs that utilize multidisciplinary teams of investigators, including Federal scientists, and fosters long-term collaborations among NOAA, other Federal agencies, academic institutions, and state governments. As with Sea Grant, COP programs are expected to produce products useful to coastal residents and managers of the coastal environment. The issues addressed by COP—fisheries, harmful algal blooms, and cumulative impacts of stressors on coastal ecosystems—are more long-term and national and regional in scope.

The Sea Grant Association believes that the following principles must be adhered to if the Coastal Ocean Program is to be integrated with the National Sea Grant College Program:

- Integration of COP with Sea Grant should only occur if both programs are a part of NOAA, U.S. Department of Commerce.
- Integration of COP with Sea Grant must create positive benefits for COP, Sea Grant, and the Nation.
  - —COP will gain a strong and proven outreach capability it currently lacks.
  - —Sea Grant will gain research focused on national and regional needs identified from a national perspective.
  - —The United States will gain by having a stronger and more cohesive university-based coastal research and outreach program.
- The integrity of COP must be maintained, including its
  - —national and regional coastal and ocean resource issue focus;
  - —large-scale, long-term, and multidisciplinary program emphasis;
  - —current programmatic commitments;
  - —involvement and support of both university and federal scientists; and
  - —provision that no matching funds are required.
- The integrity of Sea Grant must be maintained, including its
  - —regional, state, and local coastal and ocean resource issue focus on national issues;
  - —partnership among academia, governments, and the private sector;
  - —structure of an integrated program of research, education, and outreach;
  - —focus on the Nation's coastal, marine, and Great Lakes economic. environmental, and education needs.

The Sea Grant Association Perspective:

From the Sea Grant Association's perspective, the proposal to integrate COP with Sea Grant within NOAA represents a positive step. The Sea Grant Association recognizes that there are potential advantages of program integration, and is committed to support the principles stated above if integration does occur. These advantages include:

- Authorization of the Coastal Ocean Program. The COP would be codified in law, with clear Congressional intent, through an authorization under the Sea Grant Act and with the common goal of coastal and marine resource conservation, management, and use.
- Enhanced program coordination, planning, and integration. Opportunities for direct coordination between the COP and the rest of NOAA's coastal and marine research efforts—in Sea Grant and throughout OAR—will be enhanced.
- Broadened stakeholder involvement in priority setting. Program integration would provide a common process of setting priorities that will give all stakeholders a role. Combining Sea Grant's user-driven priority-setting process with COP's federal and academic priority-setting process will (a) broaden the base of political and constituent support for both programs through enhanced involvement with a wider constituent base, and (b) enhance the transfer of knowledge to users and to both university and federal scientists through existing extension and outreach mechanisms.
- Improved coordination of university- and government-based coastal and marine science within the Federal Government. The integration of COP with Sea Grant will enhance the value and contributions of the research and outreach programs within NOAA and the Federal Government by promoting greater programmatic interactions with NOAA programs and scientists, promoting interactions with Federal agencies, and providing a basis for participation in broad national projects and studies.
- More efficient delivery of products and services. Program integration will provide for a more efficient management framework, including a combined administrative structure and a common performance evaluation process, thus resulting in reduced administrative costs overall. Sufficient infrastructure and staff must be maintained to ensure that COP and Sea Grant both can function with a high level of impact.

Addition of New Sea Grant Programs to the National Sea Grant College Program

Part of the pending reauthorization legislation seeks the addition of a new Sea Grant program in the western Pacific. Collectively all the Sea Grant Directors welcome the opportunity to consider the expansion of the Sea Grant concept into a new oceanic region. In doing so, the SGA requests following the existing, well-established guidelines for the creation of new Sea Grant programs, which currently exists in P.L. 105–160. Such guidelines assure that the high quality of Sea Grant will be preserved throughout any growth of the program.

Submitted by: Russell Moll, Director, California Sea Grant College Program, University of California, San Diego, 9500 Gilman Drive, Dept. 0232, La Jolla, CA 92032–0232; rmoll@ucsd.edu; Phone: 858–534–4440; Fax: 858–534–2231.

APPENDIX

Sea Grant Impacts

A national compilation of the economic impact of the federal investment in Sea Grant research, education, and outreach programs produced an $813 million annual impact during 1987. Since then, Sea Grant impacts have continued to be remarkable in economic terms, in the development of human capital for the Nation, and in conserving the coastal environment. A few examples are given below for recent years in each of nine major Sea Grant program areas.

Marine Biotechnology

- Sea Grant organized the first systematic research effort in the United States to develop new drugs from marine organisms, and researchers have discovered and described more than 1,000 compounds that may be vitally important as new anticancer, anti-inflammatory, and antimicrobial agents. Regulatory agencies and pharmaceutical companies are now testing some of these compounds.
- Patents and a new company are the result of Sea Grant research, which led to the development of industrial uses for crab waste derivatives. This is one step in solving a huge processing waste problem along the mid-Atlantic and Southeastern U.S.

Aquaculture

- Sea Grant research and extension efforts have contributed to the growing of hybrid striped bass in ponds. In just 10 years, a small demonstration project has led to an industry that produces 10 million pounds of fish valued at $25 million annually.
- The development of new filter designs has led to a patent and completely automated low energy using systems now found throughout the aquaculture industry. A new company based on the technology now generates over $1 million in annual revenues.

Coastal Communities and Economies

- Small cities in the Pacific Northwest developed and implemented revitalization plans for deteriorating waterfronts. In the wake of timber-related industrial dislocations and salmon fishing closures, Sea Grant guidance helped obtain $1.5 million in state and federal grants for one city to use for street improvements, building a public boat landing and plaza, and museum improvements. Riverfront revitalization also has attracted a new $5 million private development and an historic tall ship moored at the public dock.
- Sea Grant's efforts to develop underwater preserves have significantly boosted the economy of a wide range of businesses in Great Lakes coastal communities. New diving activity provided an economic stimulus of at least $1.5 million over a two-year period for small towns near the preserves.

Urban Coasts

- Sea Grant held workshops and published best management practice manuals that led General Motors to utilize less expensive "soft" engineering techniques in the development of its multi-million dollar, ¾-mile long urban river promenade in the heart of Detroit, thus providing substantial savings to the project while simultaneously conserving natural resources.
- After being provided with the result of Sea Grant studies on the effect of sewage effluents on coastal ecosystems, Orange County, California, officials were able to receive secondary treatment waivers under EPA's stringent water quality requirements, saving taxpayers as much as $50 million a year during

a 30-year period that would have been spent on additional treatment facilities.

Coastal Hazards

- Sea Grant recommendations led to revisions of North Carolina's hurricane resistant building code in 1986 that increased the required minimum depth of foundation pilings for erosion prone coastal buildings. During Hurricane Fran in 1996, 200 of the 205 newer ocean-front houses built to the "Sea Grant" standards survived the hurricane with minimal foundation damage. In comparison, more than 500 older ocean-front houses, in the same area, were destroyed.
- Computer models developed in California are now using an existing wave-monitoring network to develop better planning of coastal structures, saving thousands of dollars annually on prior site-by-site studies.

Ecosystems and Habitats

- Sea Grant programs have reduced the cost and adverse effects of clean-up efforts for large power plants in areas infested with zebra mussels by focusing on times when larvae are most abundant, identifying effective and inexpensive treatments, and minimizing the frequency and duration of treatments.
- Quick-testing field probes are being developed to identify harmful algal blooms in coastal waters. This will allow managers to respond more effectively to determine and reduce health risks to both humans and animals.

Fisheries

- Sea Grant research has shown that visually modifying salmon gillnets and adjusting fishing schedules can reduce entanglements of seabirds. These findings, coupled with an observer program coordinated by Sea Grant, prevented the closure of the Puget Sound sockeye salmon fishery, saving hundreds of jobs and millions of dollars in the regions' economy.
- Sea Grant was instrumental in conceptualizing and starting the teaching of marine safety and survival to over 4,000 fishermen in 65 Alaskan ports. According to Coast Guard records, fatalities have been reduced by 50 percent over ten years.

Seafood Science and Safety

- Sea Grant conceived and guided the formation of the "Seafood HACCP Alliance," an intergovernmental agency partnership with industry and academia. By 2001, the Alliance's programs reached 5,000 U.S. processing plants, 6,000 importers and international suppliers, and 14,000 employees and regulators with training on new seafood handling and processing techniques. Seventy-seven percent said they could not have complied with FDA regulations without the training. It has been estimated that the program has prevented 20,000 to 60,000 seafood-related illnesses a year, thereby saving as much as $115 million annually.
- Rapid and sensitive methods to detect contaminated seafood have been developed and more are under study. Ultimately, consumers can confidently buy and consume safe, wholesome seafood. These and other scientific methods are taught annually to about 60 representatives of key processors and importers of shrimp and seafood from foreign sites into the U.S., insuring safe seafood for U.S. consumers.

Education and Human Resources

- In the past three decades, the National Sea Grant College Program has supported more than 12,000 undergraduate and graduate students in disciplines ranging from oceanography to engineering to economics. In addition, 479 graduate students have completed the year-long Knauss Marine Policy Fellowship in Washington, D.C. Many of these students are now U.S. leaders in industry, government, and academia.
- By 2000, the two-week Operation Pathfinder courses in marine sciences trained over 700 teachers, who have in turn trained 14,000 other professionals in 30 states and seven territories. These teachers have the potential to educate 5.5 million K–12 students during the next five years about the world's coastlines and oceans and man's use and conservation of them.

Chairman EHLERS. Thank you for finishing with nine seconds to spare.

Dr. MOLL. I got this from him.

Chairman EHLERS. Ms. Katsouros. Would you turn your microphone on, please? Thank you.

STATEMENT OF MARY HOPE KATSOUROS, SENIOR FELLOW AND SENIOR VICE PRESIDENT, THE H. JOHN HEINZ III CENTER FOR SCIENCE, ECONOMICS, AND THE ENVIRONMENT

Ms. KATSOUROS. Good morning, Mr. Chairman, and members of the Committee. I am pleased to be here today to talk to you about Sea Grant. I would like to add one thing. I was the Executive Director of the Ocean Studies Board in 1994 that produced the review of the Sea Grant programs, and Nancy is now the Chairman of the Ocean Studies Board. And we had—we were pleased to see that most of our recommendations of that report have been followed by the Sea Grant Program. I will respond to the questions that were asked. My written statement is—has been submitted for the record.

Sea Grant is about partnerships. It is about partnerships with the best academic institutions and the Federal Government. It is partnerships of the Federal Government with state and local and regional. And it is a partnership that involves 300 institutions and 3,000 scientists each year. It educates. It helps people, and it is an important part of our Federal research capabilities.

Regarding question 1, whether Sea Grant should be moved to NSF, one must remember that Sea Grant was originally housed in NSF when it was formed in 1966, but transferred in 1970 to NOAA, to the newly established ocean agency. It was modeled after the country's land grant programs, which still reside in the Department of Agriculture. If one transfers Sea Grant to NSF, would we transfer land grant and space grant?

I have the highest esteem for the National Science Foundation, but I do not support the move of Sea Grant to NSF. And I base this on many reasons. First, Sea Grant supports applied research. The applied research to respond to local, state, regional, and national goals. That is very different than what the National Science Foundation funds.

Sea Grant also is supported by matching funds. For every $1 million of Federal investment, we receive an additional 600,000 contributed by nonfederal sources, and I think we will lose this very important investment by the nonfederal agencies and partners.

And one of the primary strengths of Sea Grant is its extension abilities and activities. And I think those would also be lost if we move the program to the National Science Foundation. These extension services have played an important role in NOAA. And I think as we move forward and we have even more threats to our coastal environment, more issues that will be brought up, I think that we need Sea Grant and its extension services to be there and prepare to respond.

The Academy came out with a recommendation. It was recommendation #1 that Sea Grant be elevated to be within the Office of the Administrator, so it really would cut across all of the line offices. That recommendation was not followed. And, perhaps, it is now time to reconsider, especially as we have this new threat—our threat of terrorism and all the security implications, food security, environmental security, we could use Sea Grant to meet some of those threats and some of those needs.

So, perhaps, we, as a community and you, as the Congress, could re-examine that recommendation of elevating Sea Grant into the Administrator's office. So to reiterate, I think Sea Grant should not be moved to the NSF and I do think that the recommendations stated in the Academy's 1994 report be seriously re-examined.

Now, question two, I have seen great improvement since 1994 in the Sea Grant peer-review process. We do have several layers of review. We have outside reviewers going in every four years and looking at the program. And the program has met the goals and priorities of the Nation and of the state and of the local communities. I think that review process, indeed, has improved to such a point that I think that some of the concerns stated earlier on have been dissipated.

I also think now that as we focus on new threats, that it would be good for the Sea Grant to stay within NOAA and maintain its peer-reviewed program. Obviously, it could be improved—everything could be improved, could be refocused. One could look at how the——

[Microphone problem]

Chairman EHLERS. Excuse me. Apparently you—what happened? I am sorry. Your microphone is not on. That is why I was interrupting. Apparently it got pushed somehow.

Ms. KATSOUROS. But if we do move COP in with Sea Grant, we really need to maintain the unique capabilities of both. To me, they are very different programs. The COP is a long-term, multidisciplinary needing all kinds of vessels, where the Sea Grant is single investigator, focusing on priorities of the state and of the Nation. If our Congress did not have the foresight to have Sea Grant established in 1966, there would be an outcry to you today to have Sea Grant as part of our national establishment.

I am sorry I was——

[The prepared statement of Ms. Katsouros follows:]

PREPARED STATEMENT OF MARY HOPE KATSOUROS

Good morning, Mr. Chairman and members of the Subcommittee. I am Mary Hope Katsouros, presently Senior Vice President of The H. John Heinz III Center for Science, Economics and the Environment. Prior to joining the Heinz Center, I was the Executive Director of the Ocean Studies Board of the National Academy of Sciences (NAS). In my capacity as Executive Director, I was involved in the preparation of the 1994 NAS report "Review of NOAA National Sea Grant College Program." I am pleased to testify on the National Sea Grant College Program (Sea Grant). My testimony will address the three questions stated in your letter dated February 20, 2002. I will also briefly comment on H.R. 3389, a bill to reauthorize the National Sea Grant College Program.

About 2.5 billion people currently live within 100 miles of the world's coasts. Today, over half of all Americans live in coastal areas. It is estimated that by 2025 roughly three-quarters of all Americans will live in coastal areas. As the demand for seafood increases, fisheries are being depleted or eliminated. When world production of oil and gas peaks in the 21st century, there will be increased pressure to drill offshore and in coastal areas. The conflict in the use of the coastal areas between recreational and commercial users will only increase. Then there are the threats from coastal hazards, sea level rise, water and water treatment and the newest threat, terrorism. We need solutions to coastal problems, resolution of conflicts, and more knowledge for decision-making. It is imperative that government at all levels—local, state, regional, and federal—engage their citizens and be prepared to conserve and protect our coasts.

If Congress did not have the foresight to establish the National Sea Grant College Program in 1966, there would be an outcry for the establishment of such a program today.

Sea Grant is a partnership between the Nation's universities and the National Oceanic and Atmospheric Administration (NOAA). Through Sea Grant, NOAA takes part in a variety of marine and Great Lakes research, education, and outreach activities. Sea Grant has been virtually the only source of funding in the United States for activities in marine policy, and has been a major contributor in the fields of marine aquaculture; coastal and estuarine research, marine fisheries management, seafood safety, marine biotechnology, marine engineering and marine technology development. Sea Grant combines research, education and advisory services into coherent, horizontally and vertically integrated approaches for the solution of coastal environmental and commercial problems. It supports students at all levels of the educational system and has been a major factor in educating individuals who today hold research and policy positions across the United States. Sea Grant is a unique partnership involving over 200 institutions and more than 3,000 scientists, engineers, educators, students, and outreach experts each year. In my opinion, Sea Grant contributes to the national interest and is not duplicated elsewhere. It is an asset that we all should support.

My responses to the three questions outlined in your letter dated February 20, 2002 follow:

Regarding *question 1,* Sea Grant was originally housed in the National Science Foundation, but was transferred to the newly created NOAA in the Department of Commerce in 1970. The National Sea Grant College Program was modeled as the marine version of the research and extension activities based at the country's land grant universities and therefore belonged in the ocean/coastal agency. Although I have the highest regard for the National Science Foundation and I was involved in drafting the recommendations for the NAS 1994 report, I do not support moving Sea Grant to NSF for two important reasons. First, the research is conducted differently in Sea Grant and NSF and therefore the peer review systems for proposals are different. Sea Grant focuses on applied research and is able to turn around research grants more quickly. Also, it is able to tailor its research programs to respond to local, state and regional needs and priorities. Sea Grant is a federal/state partnership that works. Sea Grant provides substantial leverage to the federal investment; for every $1 million in federal funds invested, an additional $600 thousand is contributed by non-federal partners. Sea Grant has designed an improved system of peer review and streamlining.

Second, one of the primary strengths of Sea Grant is its ability to conduct extension activities. By moving Sea Grant to NSF, there is a risk that these vital and effective services will be diminished or lost altogether. These services play an important role in the work done by NOAA and I actually believe that they could have a greater impact if Sea Grant were elevated within the NOAA structure. As a service and community oriented agency, NOAA greatly needs the ability to reach out to the public and practitioners to disseminate its expertise, technology and products. NSF is a different type of agency and could not benefit from nor realize the full potential of such services.

To reiterate, Sea Grant should not be moved to NSF and recommendation 1 of the 1994 NAS report should be seriously reconsidered.

Regarding *question 2,* Sea Grant focuses on national, regional and state priorities. Each Sea Grant state program works with the National Sea Grant office and its user community to develop a list of priority research areas to promote national goals. Each program designs its own educational programs for the undergraduate and graduate levels, as well as for secondary and elementary students and teachers. Each program also develops its own Sea Grant Extension service, where agents provide information and technical assistance to the public based on the research generated. Finally, each state program develops its own mix of research, education, and outreach to meet the national goals and the state priorities. State programs have been evaluated based on performance benchmarks such as their programs relevance to national and state goals. Although the National Sea Grant Office does not designate specific allocations, the review process focuses on identified national priorities and goals. Major changes have been made to the review process since the publication of the NAS report in 1994.

Regarding *question 3,* the Coastal Ocean Program and the Sea Grant program serve to increase our understanding, assessment, and conservation of our Nation's coastal environment. They are both partnerships between the Federal Government and academic institutions. Both programs are focused and competitive. However, there are also differences. The Coastal Ocean Program is a multi-investigator, multidisciplinary, long-term research project. They require ship time and are long-term. Sea Grant research projects meet national and state goals, receive matching funds, and may be multidisciplinary and multi-investigator. Both programs add to our knowledge base and have unique capabilities. If they are administratively housed together, each program's uniqueness must be preserved. Also, the overall Sea Grant budget may appear larger when indeed it is only the combination of two programs and not new monies. In my estimation, both of these programs are worthy of our support and should receive additional funding.

In closing, Sea Grant occupies a unique niche within the federal science community and I support the measures in H.R. 3389 to foster stronger collaborations between Administration scientists and scientists at academic institutions. Sea Grant provides numerous opportunities to involve universities and representatives of government at all levels to assure that the best science and economics are used for decision-making at all levels. With a larger budget, Sea Grant could do even more. In comparison to Land Grant, Sea Grant is a poor stepchild, receiving only a fraction of Land Grant's funding. Over the next five years, Sea Grant's budget should be doubled, at a minimum, to provide the knowledge base for balancing conservation and use of our coastal resources so that our nation may prosper.

Chairman EHLERS. Okay. Thank you very much. Next, we are pleased to recognize Dr. Rabalais.

STATEMENT OF DR. NANCY N. RABALAIS, PROFESSOR, LOUISIANA UNIVERSITIES MARINE CONSORTIUM

Dr. RABALAIS. Thank you, Representative Ehlers, for asking me to come here today, and other members of the Committee, for my testimony. I am here as a coastal researcher. I am one of the scientists who benefits from the monies that NSF, Sea Grant, and Coastal Ocean Program provide.

Chairman EHLERS. Excuse me. Just pull the mike in front a little closer to you.

Dr. RABALAIS. Okay. I have been doing marine coastal research for about 20 years. I have had money from both Sea Grant, the Coastal Ocean Program, and the National Science Foundation. My research deals with a large problem in the Gulf of Mexico. It is called the Dead Zone in the press, and Representative Gilchrest would recognize this issue because of anoxia and Chesapeake Bay. And this research has been funded by the Coastal Ocean Program primarily.

I was asked to come before you today to speak about the differences in the Sea Grant Program and the Coastal Ocean Program, and then a very loaded question about which program has the most meritorious review process. I am going to dodge that one a bit, but I will answer it.

I provided, in my written testimony, a table of differences between the National Science Foundation, the Sea Grant Program, and the Coastal Ocean Program. And they are different for reasons. They serve different constituencies. They do different sorts of research. They serve national needs or they serve state or local needs. And within the scientific community, those of us who depend on these funds for research, we know which organization to go to which best serves the purpose for the research intended.

And right now, all three programs, of course, are very strong. And it is sort of—if you look at the table and look at the differences, it is very similar to trying to squeeze a square peg into a round hole by moving any of these programs into the other one.

Within the marine research community, and I have spoken to many individuals who are funded both by Sea Grant and by Coastal Ocean Program, the fear or the worry among the marine science community is that moving any of these funds jeopardizes the integrity of the programs that are likely to be moved and the purposes for those programs. And all of them have very good purposes and they are all being done very well by the various agencies that are conducting those programs.

I would also like to say that I have also been rejected by all three of these agencies in my proposal. So I am also—I am an equal opportunity speaker here. Okay? I am not out to support one or the other, but I think basically they are all excellent programs. They all serve their purposes, and they are doing very well where they are right now.

I would also like to comment that the science community, and especially the academic-based community, of which I am part, does not see an increase in NSF budget by moving another program into it as a valuable way to increase the science endeavor in the United States. The NSF budget needs to be increased solely as an NSF budget and not by moving other programs into it.

There are many things that are going on right now with review of programs. And some of this moving of peas around under the pods may be a little bit premature at this point. As has been mentioned already, the congressionally mandated commission on U.S. Ocean Commission is looking at some of the structure of these programs. And Vice Admiral Lautenbacher is also conducting a bottom-up review of programs within NOAA itself. And it seems that some of these discussions and analyses should go forward before we start moving research dollars and programs around.

Thank you very much for allowing me the chance to present this. The coastal ocean research community is concerned any time money starts to move around because then we don't know where are research dollars are going to come from next, basically. And we don't want to see valuable programs get subsumed into other programs when they are doing wonderful work for us right now. Thank you very much.

[The prepared statement of Dr. Rabalais follows:]

PREPARED STATEMENT OF NANCY N. RABALAIS

Chairman and Members of the Subcommittee:

I offer the following material and comments as testimony to your subcommittee in its review of the President's fiscal year 2003 Budget proposal to transfer Sea Grant (SG) from the National Oceanic and Atmospheric Administration (NOAA) to the National Science Foundation (NSF), and in review of H.R. 3389, which would reauthorize the Sea Grant College Program of NOAA. Included in H.R. 3389 as it currently reads is a move of the NOAA Coastal Ocean Program (COP) into the Sea Grant College Program. I have been asked specifically to address the move of Coastal Ocean Program into the Sea Grant College Program, but will offer comments on the first issue as well and concepts that cross both issues.

My knowledge of these various funding agencies that support research in the coastal, ocean comes from about 20 years of marine research in coastal Louisiana and the Gulf of Mexico. I have received considerable funding from NOAA, initially from the National Ocean Service in 1985-1987 and since 1990 from the Coastal Ocean Program for several collaborative research projects on the area of hypoxia (= "Dead Zone") in the northern Gulf of Mexico adjacent to the outflows of the Mississippi and Atchafalaya Rivers. I have been funded on a few occasions by the Louisiana Sea Grant Program for hypoxia-related research support and synthesis, but mostly for other topics and for projects with a much lower funding level than from COP. I received funds from the National Science Foundation in the 1980s as part of their EPSCoR program. [As an aside, I have also had my proposals rejected by all three programs!] Additional funds over the years have come from other NOAA programs and other federal agencies, state agencies, and private institutions. My comments, I offer as a research scientist at a primarily research-based institution, but I am not speaking for my home institution or any agency or board. Based on several conversations I have had with other NOAA COP-funded and SG-funded investigators over the last several weeks, I do believe I represent the views held by many researchers in the coastal science community of the U.S.

Comparison of National Science Foundation, Coastal Ocean Program, and Sea Grant College Program

The three programs were developed for and provide research funds for very different types of research. Each is a quality program that supports the best of peer-reviewed research for the particular needs of those programs and the constituency that they support. There are differences among them in the review process, overall administration, constituencies, level and types of funding, and mechanisms for funding. The following categorizations are from my perspective as a researcher, not a reflection of the agencies' stated policies. They are also situated along a continuum of which program is more similar to the other. In other words, the Sea Grant College Program and the National Science Foundation are the least similar.

Comparison of National Science Foundation, Coastal Ocean Program and Sea Grant College Program

	NSF	Coastal Ocean Program	Sea Grant
Focus	Generic science, basic, broad-based, long-term issues (e.g., LTER, global climate change, ocean drilling, JGOFS)	National problems, generic issues in US; builds on federal partnerships (e.g., GLOBEC, CoOP)	More applied; state priorities
Geographic range	National/international	Regional, not tied to state-based	State-based, intentionally de-centralized
Duration of grants	2-5-20 yr	2-5 yr	Short-term, 1-2 yr
Review process	Mail and panel reviews	Mail and panel reviews, parallels NSF process because of joint programs	State-level proposal review; national review of state programs on 3-5 yr cycle
Funding of ships	Heavily supported via UNOLS	Heavily supported via UNOLS, NOAA, others	Program funds not used for ship rentals
Matching requirements	None, but there may be academic institution support	None, but there may be academic institution support	Researcher provides $1 for each $2 funded
Education and outreach	Imperative placed on researcher as part of funded research	Expected of researcher, additional extension of research results accomplished by COP staff	Expected of researcher, additional state and national extension programs
Development of partnerships	Yes	Yes	Yes
Relevance of research	Broad-based, support of science endeavor, societal needs	Support of science endeavor, needs of local and national marine resource managers, direct input to other NOAA programs	More oriented to state resource managers

Should there be a move of SG into NSF, or a move of COP into SG?

In both cases, my opinion is **"No."** In each case, it is similar to trying to squeeze a square peg into a round hole, and goes against the old adage "If it is not broken, do not try to fix it." As described above, each of the National Science Foundation, Coastal Ocean Program, and Sea Grant Program are quality programs from which excellent science is derived to meet the needs of the Nation and marine resource managers but at very different levels. They were developed to address national, regional and state research and information needs for specific purposes that complement each other, and are not duplicative. The fear among the scientific community is that the move of one into another would be the loss of the moved program, and Sea Grant and the Coastal Ocean Program are each important programs in their own right. The biggest mismatch within the above comparison is the Sea Grant College Program and the National Science Foundation. While the entire science community and the academic-based science community, in particular, would like to see the budget of the National Science foundation increased, movement of a pre-existing program with a specific and very different mission, is not the appropriate mechanism for increasing NSF's budget. In a similar vein, in the early 1990s the Coastal Ocean Program filled a vacuum and a need for a broad-based, regional and national science-based focus. NOAA created an interdisciplinary, multiple col-

BEST COPY AVAILABLE

laborator, academic-federal partnership, and the Coastal Ocean Program is serving that purpose very well, and should be able to continue that purpose outside of the Sea Grant College Program. COP functions in its current home in the National Ocean Service (NOS) very well at present, and should continue to do so.

From my perspective, I depend heavily on the NOAA Coastal Ocean Program and have over the last decade for support of very important research on the "Dead Zone" in the Gulf of Mexico. This type of research is not fundable by a state Sea Grant program because of its large size and funding needs, including the need for expensive ship rentals, its multiple collaborator and interdisciplinary nature, and the need to develop a long-term data set so that relationships of hypoxia and Mississippi River discharge and nutrient loads can be deciphered amidst a background of climate variability. The results of our research cross state and regional boundaries because of the worsening coastal water quality and increasing eutrophication and low oxygen throughout the Nation's estuaries and coastal waters (e.g., recently completed National Research Council report on "Clean Coastal Waters" and NOAA's "National Estuarine Eutrophication Survey"). Similar long-term, land-ocean margin programs within NSF exist but the funds are limited, and our efforts to garner those funds (LTER/LMER) through a highly competitive process have not met with success. Other NSF programs would require that we focus specific aspects of our broad-based research program in individual shorter-term proposals that would still fund larger projects, ships, but perhaps not the continuation of the long-term experiment that the Mississippi River, its changing nutrient loads, and attempts to manage it are providing for the coastal Gulf of Mexico.

Similarly, important regional and broad-based programs funded by the Coastal Ocean Program, often in collaboration with other federal agencies, such as ECOHAB (Ecology of Harmful Algal Blooms) in Gulf of Maine, Florida, Chesapeake Bay, California and Washington, NECOP (Nutrient-Enhanced Coastal Ocean Productivity) in the northern Gulf of Mexico, GLOBEC (Global Ocean Ecosystem Dynamics) on Georges Bank and the northeast Pacific, the completed SABRE (South Atlantic Bight Recruitment Experiment), COASTS (Complexity and Stressors in Estuarine Coastal Ecosystems) in Chesapeake Bay, MERHAB (Monitoring and Event Response for Harmful Algal Blooms) in the Pacific northwest, Maryland and Florida, and many others do not fit the Sea Grant College mold.

All COP investigators with whom I have discussed the move of COP into SG agree that such a move would disrupt valuable research programs with the fear of their eventual demise. Moving the programs around could just as likely result in the loss of valuable estuarine and coastal research funds rather than supplementing existing programs. There would likely be the loss of continuity in programs, the loss of skilled managers, and the loss of leveraged funds from other NOAA entities, e.g., additional funds from NOAA NOS (National Ocean Service) support many of the existing programs within COP, such as protection of coral reef ecosystems, identification and prediction of harmful algal blooms, and forecasting the coastal effects of South Florida's Everglades ecosystem restoration. The move of COP would fragment those programs and result in a loss of research funds:

I was specifically asked to address the following questions:

(1) Do the Sea Grant Program and Coastal Ocean Program serve different functions? To what extent would the Coastal Ocean Program be strengthened or weakened if the two were combined?

(2) In my experience seeking funding from both the Coastal Ocean Program and the Sea Grant Program, which program's process for peer review is better suited to identifying and awarding funding to meritorious proposals?

(1) First, the answer is that Sea Grant and the Coastal Ocean do certainly serve different functions, although the ultimate goal of each is the provision of research to fulfill the needs of management of the Nation's marine resources. It is my opinion, and that of many other coastal researchers around the U.S. that the Coastal Ocean Program would be weakened and, worse, jeopardized by a move into the Sea Grant College Program. More specific points that outline this general theme are:

- COP focuses on national research problems, identified through national scientific dialogue, with direct application to the NOAA mission. Sea Grant primarily focuses on state and local research problems with direct application to state and local needs. These state programs argue strongly for autonomy in the way they spend their funds. It would take a change of culture for Sea Grant programs to be fully supportive of focused regional programs that apportion a large amount of money to particular areas of the country.

- COP's projects focus on problems that are long-term, multidisciplinary, regional and require integration of state-of-the-art research with economic and social sciences to affect resource management. Sea Grant focuses primarily on problems that are short-term, individual investigator-based and topically-oriented.
- COP's present location within a management-oriented line in NOAA fosters a more timely linkage of the scientific results with managers. It also connects with managers at he National Marine Fisheries Service (NMFS).
- COP focuses on building strong working relationships with both NOAA and other Federal agencies to leverage funding, resulting in joint research planning, pooling of research funds, and joint management of national programs (e.g., GLOBEC and ECOHAB). The Sea Grant program is focused on building relationships primarily with local and state entities, and less so with national entities.
- The Coastal Ocean Program is unique among coastal research programs in the integration of states other than coastal states in its research endeavors and eventual use of science-based resource management, for example the work on coastal eutrophication and hypoxia and the involvement of upstream states in the development of policies and plans for managing nutrients within watershed and airsheds that extend far beyond the coastal states affected by changes in nutrient inputs.
- Sea Grant Programs reside with university systems and are heavily subsidized by the states, proposers for Sea Grant funds must bring with them $1 for every dollar funded; the funded amounts are much smaller than COP and NSF, the amount of funding would not support large, multi-investigator and multidisciplinary projects of the type supported by COP, and Sea Grant Programs support many activities that are not research. It would be beyond the means of most researchers and academic institutions to provide matching funds for projects of the size and types of projects currently supported by COP. A vital funding mechanism would be lost to the coastal research community that currently fills many of the Nation's needs for science-based research in support of natural resource management.
- COP manages the proposal submission process entirely within its own staff of 12. Sea Grant has a two-tiered system for proposal processing: the solicitation, review and selection process takes place separately in the 30 state Sea Grant programs, with oversight by the National Sea Grant Office. Some Sea Grant Programs are initiated and administered from within the National Sea Grant Office, with notification and submission facilitated by the state programs.
- COP schedules and pays for UNOLS or other vessel time for its funded scientists. Sea Grant seldom funds ship time with program funds. Ship support is essential for many COP projects and is expensive.
- If COP is transferred, all existing interagency agreements for COP research programs with other agencies (e.g., NSF, NASA, EPA, ONR) may be jeopardized, requiring renegotiation and new agreements, a lengthy process. In the interim, all new funding would be in jeopardy.
- If COP is transferred, there is the possibility that funds would be diverted away from the stated purposes of the COP research.
- If COP leaves NOS, the remaining funds in NOS (>$15M) that currently support competitively-awarded research would like be lost to the scientific research community.

(2) Second, the review process of each of the Coastal Ocean Program and the Sea Grant College Program are designed to meet the individual program needs. The Coastal Ocean Program proposal review mechanism is designed and followed according to the guidelines of the National Science Foundation because of their many jointly-sponsored research programs. The Sea Grant College Program, as listed in the Comparison Table, depends on input from local and state resources managers at the preproposal stage and then seeks national-level input in the mail review stage. The ultimate decisions are based on the individual state program needs with oversight from the National Sea Grant Office through a review of the state programs on a 3–5 year cycle. The Sea Grant College Program's review process and overall administration has improved dramatically in response to the 1994 review by the Ocean Studies Board of the National Research Council. Both programs via their different mechanisms seek to award the most meri-

BEST COPY AVAILABLE

torious proposals submitted within the constraints of the funding and stated research foci of the two very different programs.

Concluding Remarks

I recommend that the Sea Grant College Program remain within NOAA, and that the Coastal Ocean Program remain independent of Sea Grant. Both programs were developed for and serve very different purposes from their newly designated "homes." Moving either program jeopardizes either's survival and intended function, and both are essential to management of the Nation's ocean resources.

It seems these proposed moves are premature and lack a full airing of the various pros and cons to either the program slated for movement into another entity, OR the ramifications for the recipient agency. Changes to scientific programs must be taken with great care, as outlined in the general editorial appended at the bottom of this testimony from the American Institute of Biological Science in their February issue of *BioScience*. The advice is to think this through, consult with the scientific community, evaluate the fit of the program to the agency, and, if necessary, plan a careful transition that ensures the continuance of the original intent of a program. The move of the Sea Grant Program and the move of the Coastal Ocean Program also appear to be premature pending the report of the Congressionally-mandated U.S. Commission on Ocean Policy for which ocean resource and research management is an issue of study, and in light of a thorough review of NOAA's programs planned by the new NOAA Administrator, Vice Admiral Conrad Lautenbacher.

Representative Ehlers and members of the subcommittee, I thank you for this opportunity to come before you and offer this testimony.

Nancy N. Rabalais, Ph.D., Professor, Louisiana Universities Marine Consortium; 985–851–2800, –2836 direct, –2874 fax; nrabalais@lumcon.edu; www.lumcon.edu

BioScience

American Institute of Biological Sciences
PUBLISHER
Richard T. O'Grady
EDITOR/PUBLICATIONS MANAGER
Herman Marshall
SENIOR EDITOR
Donna Daniels Verdier
SCIENCE EDITOR
Matthew Greenstone
MANUSCRIPT EDITOR
Anthony Nathe
PUBLICATIONS ASSISTANT
Steven Johnson
Editors: Features Editor: Cathy Lundmark; Washington Watch Editor: Ellen Paul; Book Review Editor: Paula Mabee.
Editorial Board: Agriculture: Sonny Ramaswamy; Animal Behavior: Janice Moore; Botany: Lucinda A. McDade; Cell Biology: Randy Wayne; Computers and Biology: Robert V. Blystone; Developmental Biology: Robert Auerbach; Ecology: Scott Collins, Daniel Simberloff; Ecotoxicology: Valery Forbes; Education: Gordon E. Uno; Environmental Policy: Gordon Brown, J. Michael Scott; Genetics and Evolution: Martin Tracey; Invertebrate Biology: Kirk Fitzhugh; Landscape Ecology: Monica Turner; Microbiology: Ronald M. Atlas; Molecular Biology: David Hillis; Neurobiology: Cole Gilbert; Population Biology: Ben Pierce; Professional Biologist: Jean Wyld; Statistics: Mark E. Payton; Textbooks: John Jungck; Vertebrate Biology: Harry W. Greene.
Editorial Correspondence: 1444 I Street, NW, Suite 200, Washington, DC 20005; 202/628-1500; Fax: 202/628-1509; e-mail: *bioscience@aibs.org*. Instructions for preparing a manuscript for *BioScience* can be found at the back of this issue and at *www.aibs.org/bioscienceguide/resources/contributors.html*.
Advertising: Kerrie Brooks, Network Publications, 10155 York Rd., Suite 205, Crestridge Corporate Center, Hunt Valley, MD 21030; 410/628-5772; Fax: 410/628-0398; e-mail: *bioscience@networkpub.com*.
BioScience (ISSN 0006-3568) is published monthly by the American Institute of Biological Sciences. Individual membership: Sustaining, $90/yr; individual, $70/yr; family, $90/yr (includes $36 for *BioScience*); emeritus, $50/yr; K-12 teacher/administrator, $45/yr (includes $22 for *BioScience*); graduate and postdoctoral students, $40/yr (includes $21 for *BioScience*); undergraduate and K-12 students, $20/yr (includes $15 for *BioScience*); lifetime, $1,400 (one-time fee). Institutional subscriptions: Domestic, $254/yr; foreign, $303/yr. Single copies: $14 plus shipping and handling for up to 50 copies; volume discounts available for more than 50 (call 703/790-1745, ext. 23). Subscription renewal month is shown in the four-digit year-month code in the upper right corner of the mailing label. © 2002 American Institute of Biological Sciences. All rights reserved. Periodical postage paid at Washington, DC, and additional mailing offices. POSTMASTER: Send address changes to *BioScience* Circulation, AIBS, 1313 Dolley Madison Blvd., Suite 402, McLean, VA 22101. Printed in USA.

The OMB and Science Funding

In early December 2001, the science community learned that the Office of Management and Budget was proposing to transfer approximately $35 million in base funding for three Smithsonian Institution research facilities to the National Science Foundation for fiscal year 2003. The transferred funds would go into NSF's competitive grants program. The proposed transfers involved the Smithsonian Tropical Research Institute (STRI), the Smithsonian Environmental Research Center (SERC), and the Smithsonian Astrophysical Observatory. OMB's decisions had been made with little apparent regard for what the Science Commission, recently appointed by Congress to help guide reorganization of the Smithsonian's science programs and yet to file its report, might have to say. Furthermore, OMB planned to transfer to NSF a significant portion of the funding for the national research program of the US Geological Survey's Water Resources Division and the entire Sea Grant program of the National Oceanographic and Atmospheric Administration. Through letters and other venues, AIBS worked with other scientific associations to argue against these proposals. As this issue of *BioScience* goes to press, AIBS has heard that OMB may now be reconsidering its proposal to transfer the Smithsonian funds and will seek a review of the competitiveness of the programs involved; we are not aware of similar developments for USGS and NOAA funds.

AIBS recognizes NSF's excellent record of supporting the nation's research, and AIBS wholeheartedly supports NSF. We also recognize the need for the nation to fund its scientific research efficiently. Our opposition to OMB's proposals is based upon concerns for the nation's continuing access to scientific information of the kind generated by the programs affected. In some cases, a funding transfer—especially that of base funding to a competitive grants environment—may be tantamount to termination of a program. For example, it is hard to see NSF, which is mandated by law to fund basic research, funding Sea Grant's applied research agenda, which serves the needs of the marine industry, government, resource managers, and the public. Likewise, NSF might not fund much of the research in the USGS Water Resources Division, not because that research lacks value or high quality but because it is applied research.

BEST COPY AVAILABLE

We have particular concerns about OMB's treatment of STRI and SERC. Based on Barro Colorado Island in Panama, STRI dates back to 1923 and is a valuable long-term ecological research center. Long-term research is essential to the study of ecological and biological phenomena, but long-term funding to support that research is hard to come by. Few of the 24 sites funded by NSF's Long-Term Ecological Research program, founded in 1980, date back more than five decades. SERC, too, has long-term value. Established in 1965, its 2600 acres of land and 12 miles of undeveloped shoreline serve as a natural laboratory for long-term research, including wetlands biology, fisheries management, and global climate change. SERC also plays a significant role in educating students at all levels, from kindergartners through postdoctoral fellows.

Changes to any scientific program must be undertaken with great care. Once under way, changes are difficult to reverse—projects lose momentum and continuity, staff scatter. Hence our advice to OMB: Think this through, consult with the scientific community, evaluate the fit of program to agency, and, if necessary, plan a careful transition to ensure that we aren't left without a scientific infrastructure that meets our nation's needs.

—RICHARD O'GRADY
Executive Director, AIBS

BEST COPY AVAILABLE

Chairman EHLERS. Thank you for your testimony. And I am sorry that you have felt rejection. If it is any comfort, I think you are——

Dr. RABALAIS. I have a very thick skin now. Thank you.

Chairman EHLERS. Good. Well, if it is any comfort, I think you are a wonderful person. Dr. Donahue.

STATEMENT OF DR. MICHAEL J. DONAHUE, PRESIDENT/CHIEF EXECUTIVE OFFICER, GREAT LAKES COMMISSION

Dr. DONAHUE. I hope you will think the same of me after I am done with my testimony. Well, good morning. And, Mr. Chairman, members of the Subcommittee, thanks for the opportunity to present a regional perspective on this issue today. In my brief statement, I will speak to the importance of the National Sea Grant Program to the Great Lakes Commission and its eight member states. I will discuss the consequences if Sea Grant services were not available to the states. And I will offer a few recommendations as they relate both to the proposed transfer of Sea Grant and the impending reauthorization legislation.

Many of you know that a tradition of multi-jurisdictional cooperation has long been present in the Great Lakes region, and the National Sea Grant Program has long had a central role in this partnership. Through its research, education, and extension functions, it has provided unique and irreplaceable services that my commission and our member states are fundamentally reliant upon.

Simply stated, we strongly oppose the proposed transfer of the program from NOAA to NSF. We have been well-served by Sea Grant within its present home and with its present array of services. NSF is a fine institution, but it is just simply not a good fit. So rather than focusing on such an ill-advised transfer, attention is most appropriately directed at strengthening the program within NOAA and working toward reauthorization.

The relationship between Sea Grant and the Great Lakes Commission is a long-standing one. We have relied upon Sea Grant's support and assistance and leadership on topics that range from aquatic nuisance species prevention and control, to cleaning up areas of concern, to dealing with the issue of water withdrawals, diversion, and consumptive use. And we are fundamentally reliant upon the extension services of Sea Grant for the delivery of many programs and project outcomes.

The relationship between Sea Grant programs and public agencies within their hosts states is also particularly strong. And in my written testimony I provide examples for each of our seven programs of areas where Sea Grant programs are directly assisting state initiatives and—in research, education, and extension.

So the bottom line is as follows. If the Federal Government provides less or no funding for these activities, the ability of the states to perform their mandated functions, at best, would be severely compromised and, at worst, would involve the outright elimination of entire research, education, and outreach programs.

What are the implications? Depending upon the topic, it might mean loss of local economic development opportunities, a less-informed and less-involved public, a compromised decision-support system for our state legislators and leaders, and, in some sectors of the population, increased exposure to environmental contaminants.

The interests of this region and the Nation, we think, are best served by retaining Sea Grant in its present home and, through reauthorization, strengthening the program to ensure that it is well-positioned to meet future needs.

Several areas do merit careful attention in any existing or prospective evaluation effort. I will touch on just three of those, but I have additional ones in my written testimony.

First of all, the program has been essentially level-funded for a number of years, despite the growing needs of coastal areas. The stature of Sea Grant within NOAA, along with its base funding, needs to be substantially elevated if it is to realize its full potential.

Second, the continuing downsizing or devolution of government has placed increased burdens on localities for resource management programs and service delivery. Sea Grant's outreach needs have increased accordingly, but the budget has not. Major metropolitan areas in the Great Lakes region, such as Detroit and Chicago, for example, have but a single extension agent and states generally have less than six in total. So enhanced commitment to this aspect of Sea Grant is, from a state perspective, critically important.

And then third, and finally, the Sea Grant Program is primarily state-oriented. And while regional initiatives like the Great Lakes Sea Grant Network do exist, I see some untold potential of Sea Grant contributions. In our region, for example, we see great interest in Sea Grant support in helping us set priorities as a region and helping us develop the foundation for a large-scale science-based restoration initiative.

So in sum, we believe the first step in this process is reauthorizing the College Program. Appropriations of not less than $100 million for existing program elements are needed to ensure adequate attention to the growing demand for research, education, and outreach. And as the process moves forward, we hope that Sea Grant's profile within NOAA can be elevated. And also, consideration should, indeed, be given to consolidating other NOAA elements such as the Coastal Ocean Program, that have complementary missions.

Thank you for the opportunity to share the views of the Great Lakes Commission.

[The prepared statement of Dr. Donahue follows:]

PREPARED STATEMENT OF MICHAEL J. DONAHUE

Introduction and Summary Statement

Thank you for the opportunity to testify before the Environment, Technology and Standards Subcommittee of the House Committee on Science. It is my pleasure to share the perspectives of the eight Great Lakes states, acting through the Great Lakes Commission, as they relate to both reauthorization of the National Sea Grant College Program and the President's fiscal year 2003 budget proposal to transfer the program from the National Oceanic and Atmospheric Administration (NOAA) to the National Science Foundation (NSF).

The Great Lakes Commission is an interstate compact agency founded in state and federal law and dedicated to promoting sound public polity on regional issues of environmental protection, resource management, transportation and sustainable development. Through communication, research, polity development and advocacy, we provide the eight Great Lakes states—and the larger Great Lakes-St. Lawrence community—with data, information, analyses and policy recommendations necessary to promote the informed use, management, restoration and protection of the Great Lakes-St. Lawrence System.

A tradition of multi-jurisdictional cooperation has long been maintained in the Great Lakes-St. Lawrence region, and is reflected in partnerships that transcend geopolitical boundaries and the missions of individual agencies and organizations. These partnerships, which include government, academia, business/industry and citizen organizations, are critically important in ensuring that scientific research, policy development and management initiatives are well-coordinated, appropriately targeted, and effectively delivered. The National Sea Grant Program, acting through its seven programs in the Great Lakes region, has long had a central role in this partnership. Through its research, coordination, public information and extension functions, Sea Grant provides unique and irreplaceable services that the Great Lakes Commission—and its eight member states—are fundamentally reliant upon.

Simply stated, the Great Lakes Commission strongly opposes the proposed transfer of the National Sea Grant Program from NOAA to NSF. The Great Lakes states—and the entire region—have been well-served by Sea Grant within its present home, and with its present array of services. While NSF is a fine institution with a well-deserved reputation for innovation in research and research administration, it is not a good fit for the National Sea Grant Program. Rather than focusing on such an ill-advised transfer, it is our view that attention is most appropriately directed at strengthening the program within NOAA, and working toward reauthorization of the National Sea Grant College Program Act (P.L. 94–161) to strengthen and enhance its ability to work cooperatively with all entities involved in research, policy development and resource management activities.

In the following statement, I will briefly describe the mandate and functions of the Great Lakes Commission, the nature of its relationship to the National Sea Grant Program, and the importance of the services provided by the seven programs operating in the Great Lakes region. With the use of specific examples, I will argue that the Great Lakes states are fundamentally reliant upon Sea Grant for public information and extension services needed to efficiently and effectively implement critical environmental protection, resource management and sustainable development initiatives. I will further argue that the Great Lakes states would be unable to accommodate the loss of these services—whether through proposed transfer to NSF or other means—without significantly compromising the effectiveness of their own programs and, ultimately, the integrity of the resource itself. I will close with observations and recommendations on strengthening the National Sea Grant Program within NOAA and through reauthorization of the National Sea Grant College Program Act.

The Great Lakes Commission

While the Subcommittee members are undoubtedly acquainted with the Great Lakes Commission, I do wish to include a brief background statement to provide context for the remarks that follow.

The Great Lakes Commission is a bi-national membership agency of the eight Great Lakes states (Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, Wisconsin) and the two Canadian provinces in the Great Lakes-St. Lawrence region (Ontario and Quebec). The Commission has legal standing as an interstate compact and was established under state statutes in 1955 and granted Congressional consent in 1968 via P.L. 90–419, the Great Lakes Basin Compact. Associate (non-voting) membership for Ontario and Quebec was secured in 1999 via a "Declaration of Partnership" signed by representatives of the ten state and provincial jurisdictions. The Compact directs the Commission to "promote the orderly, integrated, and comprehensive development, use and conservation of the water resources of the Great Lakes Basin."

The Commission is comprised of state and provincial delegations whose members include senior agency officials, legislators and governors'/premiers' appointees. The Commission also maintains a strong and active "Observer" program that ensures the involvement of other key public entities (i.e., U.S. and Canadian federal agencies, tribal authorities, regional and international commissions, academic associations) in its work.

The Great Lakes Commission is mandated to promote sound public policy on issues that include environmental protection, resource management, transportation and sustainable development in the Great Lakes-St. Lawrence region. Three primary functions are provided for in the Compact: information sharing among the membership and the larger Great Lakes-St. Lawrence community; policy research and development on issues of regional interest; and advocacy of those policy positions on which the membership agrees. The latter is a unique and vitally important function of the Great Lakes Commission which, among others, represents the interests of its state members on matters of federal legislation, policies, programs and appropriations.

We at the Great Lakes Commission share a philosophy that influences every aspect of our work. In brief, we recognize that:

- Regional environmental protection and sustainable economic development goals are not mutually exclusive. They are inseparable and must be pursued in concert to achieve the region's full potential.
- The eight Great Lakes states, acting collectively through the Great Lakes Commission, have a principal stewardship responsibility for the precious and irreplaceable water and related natural resources of the Great Lakes-St. Lawrence system.
- Management of this system is of regional, national and international interest. In the United States it is neither the exclusive responsibility of the states nor the Federal Government. Rather, a federal/state partnership must be sustained and nurtured.
- The Great Lakes-St. Lawrence system, despite its vast and resilient nature, is a finite and fragile resource. Maintaining its integrity is a sound and necessary investment in the region's environmental and economic prosperity and, specifically, in the health, welfare and quality of life of its residents.
- No single management institution has the authority or capability to develop and administer the programs needed to ensure the informed use, management, restoration and protection of the resource. Thus, partnerships within and among all elements of the Great Lakes-St. Lawrence "institutional ecosystem" are essential to achieving shared goals.

This fifth and final point speaks to the integral role that the National Sea Grant Program—and the seven state Sea Grant Programs—play in supporting the work of the Great Lakes Commission and its member states.

The Relationship of the Great Lakes Commission and the National Sea Grant Program

The Great Lakes Commission/National Sea Grant Program relationship is a longstanding one with origins in the enabling legislation of both institutions. The Commission's mandate, as articulated in the Great Lakes Basin Compact of 1955, calls upon its state members to promote sound public polity via communication, polity research and development, and advocacy. The Sea Grant legislative charge, as embodied in the National Sea Grant Program Act (P.L. 94–461) is to "increase the understanding, assessment, development, utilization, and conservation of the Nation's ocean and coastal resources by providing assistance to promote a strong education base, responsive research and training activities, and broad and prompt dissemination of knowledge and techniques. Hence, the Great Lakes Commission views Sea Grant as an integral player in the region's overall decision support process. Sea Grant research, training, public education and extension functions provide the foundation for the formulation and delivery of resource policy and management initiatives.

From an administrative and policy standpoint, the Commission/Sea Grant relationship takes several forms that offer mutual benefits. Two members of the Commission's Board of Directors sit on the National Sea Grant Review Panel and, as such, have an opportunity to ensure that Sea Grant initiatives respond to the research, policy and management needs of the states. Also, I serve on the Polity Committee of the Michigan Sea Grant Program and, in that capacity, advise on research and extension priorities that reflect the needs of the Great Lakes Commission. Other Commission staff have served in technical capacities for various Sea Grant programs, often for peer review of research proposals. Similarly, the chair of the Great Lakes Sea Grant Network (i.e., the consortium of the seven Sea Grant Programs in the Great Lakes states) is a designated "Observer" to the Great Lakes Commission, and various Sea Grant personnel serve on numerous standing committees and task forces of the Great Lakes Commission. Also, a Great Lakes Commission-Sea Grant Fellowship Program is now entering its third year; an arrangement whereby the two institutions mutually support a graduate student who spends a year working with the Commission on regional scientific and policy issues. This type of training has long-term benefits for the region as well. I, in fact, benefited from Sea Grant support as a doctoral candidate at the University of Michigan, and the Great Lakes Commission has both employed and worked with many former Sea Grant Knauss Fellows whose Sea Grant experiences influenced their career choices.

From a research standpoint, relationships between the two institutions take on several forms, including collaboration as co-Principal Investigators, contractual arrangements to secure necessary expertise, and less formal arrangements to ensure that research outcomes are presented to, and used by target audiences that include government, business/industry interests, citizen organizations and the general public. Representatives from various Great Lakes Sea Grant Programs, for example, have contributed to Commission policy research related work on topics such as aquatic nuisance species prevention and control; soil erosion and sediment control; clean up of Areas of Concern; water management issues ranging from lake level fluctuations to water withdrawal, diversion and consumptive use; environmental and commercial dredging; recreational boating and related water-based tourism; and coastal development and land use management, among others. In addition to such collaborative benefits, the Great Lakes Commission has found the research grants program at Sea Grant, while often modest in resources, to make a measurable contribution to both basic and applied Great Lakes science. In fact, may of its research projects have a "venture capital" orientation with business development implications that have ultimately led to a high return for a modest federal investment.

From an extension standpoint, I can state without qualification that the Great Lakes Commission is fundamentally reliant upon Sea Grant for the "delivery" of many program and project outcomes to target audiences. All of the aforementioned research topics of the Great Lakes Commission have a policy and management dimension that typically involves outreach to audiences such as state legislators, state and local officials, business and industry associations, citizen organizations and school systems. Of particular note is Sea Grant's lead role in public information and education as a basis for aquatic nuisance species prevention and control. The Information/Education Strategy of the Commission-staffed Great Lakes Panel on Aquatic Nuisance Species, for example, reflects the importance of the Sea Grant partnership on such initiatives. In my personal experience, I have found Sea Grant's emphasis on—and expertise in—technology transfer to be a singularly important contribution to the Great Lakes management effort.

The Importance of Sea Grant to the Great Lakes States

In addition to Sea Grant contributions at the regional (i.e., multi-state) level, the relationship between individual Sea Grant Programs and public agencies within their host state is particularly strong. As with the Great Lakes Commission at the regional level, the research, education and extension functions of individual Sea Grant Programs are integrated with resource policy and management priorities at the state level. These functions are, in many cases, unique and their absence would compromise the state's ability to effectively deliver services to target groups. Examples of this are readily found in the various Sea Grant Programs.

In Michigan, Sea Grant extension agents serve the needs of state and tribal commercial fishermen. Through research, planning, marketing assistance and education, these efforts have benefited local economies and ensured that safe supplies of Great Lakes and farmed fish reach markets in the region and beyond. In just one area of southeast Michigan, Sea Grant's Great Lakes Education Program has introduced tens of thousands of students to Great Lakes issues and stewardship responsibility through shoreside and vessel-based educational opportunities. And, Sea Grant leadership on the Detroit American Heritage River initiative has supported state, local, federal and Canadian agencies, and leveraged more than $5.0 million in grants for Detroit and other coastal communities.

In Pennsylvania, Sea Grant has been instrumental in publicizing fish consumption advisory information in its Lake Erie watershed, with a special focus on subsistence anglers who do not speak English. This initiative promotes informed health decisions by those who would otherwise have no access to such. Educational partnerships with the state's Department of Conservation and Natural Resources have focused on the state's new Visitor and Research Center at Presque Isle, and Sea Grant is also coordinating environmental education throughout Pennsylvania's portion of the Great Lakes basin. Pennsylvania Sea Grant has also worked with its New York counterpart to address the avian botulism problem in Lake Erie, which has been responsible for the deaths of thousand of waterfowl in recent years and may be related to sporadic fish kills over the same period.

In Ohio, the Sea Grant director provided expert testimony on proposed fishing regulations, a request that was prompted by the program's reputation for sound, objective research and the level of trust placed in it by state legislators. Sea Grant partnerships with various state and local governments, as well as private sector interests, have led to the establishment of eight artificial reefs, with all the attendant economic and habitat creation benefits. The Division of Wildlife (Department of Natural Resources) relies upon Ohio Sea Grant to promote sport fishing participation among youth through various educational programs. And, Ohio Sea Grant leadership on/support for the Remedial Action Plans in the state's Areas of Concern has moved clean-up efforts forward.

In Illinois and Indiana, the joint Sea Grant program has worked closely with agencies in both states on aquatic nuisance species prevention and control. Its contributions to science, monitoring, public education and policy development have greatly enhanced the states' individual and collective capabilities to address the issue on a state and regional basis.

In Minnesota, research, education and outreach activities that support and advance state programs are found in thematic areas that include aquaculture, ecosystems and habitats, coastal technologies, coastal communities and economies, education and human resources, urban coasts, fisheries, seafood science and technology, and communications. All such activities make important contributions to state agencies and relevant programs.

In New York, the Sea Grant Program has a particularly extensive relationship with the state Department of Environmental Conservation. The latter has relied upon Sea Grant and its extension agents to carry out education/outreach for Clean Vessel Act legislation; coordinate the Dune Stewards Program in the Eastern Basin of Lake Ontario; and undertake fisheries outreach and education, including that for Native American communities.

In Wisconsin, methods, principles and data developed through Sea Grant-supported research formed the basis for the comprehensive Green Bay Mass Balance Study coordinated by the U.S. Environmental Protection Agency. This first-of-its-kind national study documented PCB loading from the Fox River, the spatial distribution of PCBs within sediments of Green Bay and the potential for remediation of the most contaminated sediment zones. The Wisconsin Department of Natural Resources has relied upon this investigation in developing a management plan for dredging PCB-contaminated sediments from the Fox River to reduce the long-term input of PCBs to the bay and ultimately Lake Michigan.

The above examples offer anecdotal evidence as to the extent to which Sea Grant Programs partner with, or otherwise support state-level programs and service delivery efforts within the Great Lakes region. Despite the diversity of issues addressed, all have one factor in common. **If the U.S. Federal Government provided less (or no) funding for these activities, the ability of the Great Lakes states—both individually and collectively—to perform their mandated functions would be severely compromised at best and, at worst, involve the elimination of entire research, education and outreach programs.** Exacerbating this is the fact that Sea Grant Programs 1) use their federal funds to leverage significant additional financial support (by requiring a 50 percent non-federal match); 2) partner with many other non-state entities (both within and outside government) to provide services that directly benefit the states; and 3) typically provide services that states are ill-equipped to provide due to budgetary or other resource constraints. The implications of less (or no) funding to Sea Grant for such services varies with the nature of the activity, but outcomes would include loss of local economic development opportunities; a less informed (and hence less involved) public; a compromised decision support system for state legislators and other decision-makers; increased exposure to environmental contaminants among sectors of the population; and degraded environmental conditions due to the absence of Sea Grant-brokered remediation/protection initiatives.

Strengthening the National Sea Grant Program Within NOAA

The Great Lakes Commission is strongly opposed to the proposal to transfer the National Sea Grant Program to NSF. This opposition is founded on three observations: 1) NSF, while an outstanding institution, is a poor fit for Sea Grant; 2) Sea Grant has a track record of success within NOAA and their respective missions are complementary; and 3) given that success, the Federal Government is well-advised to direct its attention to strengthening the program where it is now housed, rather than focusing on a transfer.

The National Sea Grant Program features complementary missions of research, education and outreach, and the emphasis throughout is on applications to the policy, management and business needs of its constituents within and outside government. We note that NSF places special emphasis on basic research, and lacks any demonstrated interest in the type of education and outreach programs that Sea Grant so effectively undertakes at the state level. Further, NSF is largely a Washington-based institution, with little presence (beyond funded research projects) at the regional and state levels. One of the major strengths of Sea Grant is that it is not just a research institution, but maintains a stable, reliable institutional infrastructure in all coastal states for a range of other functions. **A "reconstructed"**

Sea Grant that lacks education and outreach functions—even if it features a substantially enhanced and efficiently administered research element—would not provide the services needed by the Great Lakes states and broader regional constituency. The Administration proposal not only calls for a substantial reduction in appropriations for the program, but also provides no assurance that the program's multiple functions will be retained. Thus, from our perspective, the proposal offers only risks and is devoid of potential benefits.

The argument, on the other hand, for retaining the National Sea Grant Program in NOAA is compelling. Sea Grant's reputation for results-oriented applied research, educational innovation and community-based extension has been recognized by the National Research Council and the Byrne Committee/Kellogg Commission, and outside reviewers have consistently rated the majority of the 30 programs as "excellent" in achieving significant results. Further, the National Sea Grant Program is the only federal institution whose mandate is to focus on sustainable development of coastal resources, and is the only NOAA program that focuses on technology transfer of information through a national extension program. And, to my knowledge, the "return on investment" for Sea Grant-funded initiatives is without equal. This is testament to the innovative, application-oriented nature of the program, and its ability to leverage funding support from a range of partners from the national to local level.

In the opinion of the Great Lakes Commission, the interests of this region—and the Nation—are best served by retaining the National Sea Grant Program in NOAA and initiating a thorough evaluation of the program to ensure that it is well-positioned to meet future needs. Several areas require careful attention. For example:

- The National Sea Grant Program has been essentially level-funded for a number of years, despite the growing needs of coastal areas, the addition of new programs, and the increased complexity and costs of research, education and extension. It's stature within NOAA, along with its base funding, needs to be substantially elevated if it is to realize its full potential in addressing its mission.
- The continued downsizing, or "devolution," of government has placed increased burdens on localities for resource management programs and service delivery. Sea Grant's outreach needs have increased accordingly, but budgets have not. In most cases, programs have fewer than six extension agents statewide. Enhanced commitment to this aspect of Sea Grant is, from a state perspective, critically important. Major metropolitan centers in the Great Lakes region, such as Detroit and Chicago, for example, have but a single extension agent.
- The competitive grant programs administered by Sea Grant at the state level are modest by any measure, with an average of $1 million in available funds annually. Programs are generally able to accommodate only a small number of grants in the $100,000 range. Competition is intense, and the rigorous review process helps ensure the high quality of successful proposals. However, the application and grant award processes can be laborious and time consuming. Continued erosion of available grant funding could compromise the number and quality of proposals.
- The National Sea Grant Program is to be applauded for a very rigorous review and evaluation process that ensures that state research, education and outreach programs are of the highest quality. However, the linkage between evaluation outcomes and funding allocation decisions can be tenuous. Attention should be given to both reviewing the effectiveness of evaluating programs in light of the time and effort expended, and to the overall funding allocation process for programs nationwide.
- The National Sea Grant Program is primarily state-oriented and, while regional initiatives exist (e.g., Great Lakes Sea Grant Network), the regional relevance and potential contributions of Sea Grant at that level have yet to be realized. A prospective role in assisting multi-state regions and associated institutions (e.g., Great Lakes Commission) with priority setting and large scale, science-based restoration initiatives is substantial, and should be pursued.

The Great Lakes Commission believes that the essential first step in this process is reauthorization of the National Sea Grant College Program. Appropriations of not less than $100 million are needed to ensure adequate attention to a growing demand for research, education and outreach functions. Also, as the process moves forward, opportunities to raise the stature and profile of the National Sea Grant Program within NOAA should be pursued, and consideration should be given to consolidating other NOAA elements (e.g., Coastal Ocean Research Program) within Sea Grant in the interest of strengthening collaboration among program elements with complementary missions.

Conclusion

The Great Lakes Commission, on behalf of its eight member states, expresses its strong opposition to the proposed transfer of the National Sea Grant Program to NSF. The Great Lakes states—and the entire Nation—have been well-served by the program's research, education and outreach services. The preferred action is to retain NOAA as the program's institutional home, but initiate a thorough review and evaluation of the program to ensure that it is adequately positioned—via funding, administrative structure, program authorities, and state and regional services—to meet future challenges. An essential first step is reauthorization of the National Sea Grant College Program Act.

Thank you for the opportunity to share the views of the Great Lakes Commission on this matter.

DISCUSSION

Chairman EHLERS. Thank you very much. I appreciate all the testimony, and we will now proceed to hear questions from members. To begin, the Chair recognizes himself for five minutes, and I have several things. One refers directly to the Coastal Ocean Program, which has been mentioned several times, and there are some issues about that as to where it should be located and how it should be funded.

Let me suggest also that we should think about a name change for that program and call it the Coastal Waters Program instead of Coastal Oceans, because some of the most important coastal areas in the United States are located in the Great Lakes. The—it is a major fishery for our country. It is the largest collection of fresh water in the world and has its own share of problems that have to be recognized. And there seem to be far fewer Coastal Ocean Program dollars and projects that take place in the Great Lakes than in other areas.

And I would point out that the Great Lakes have a substantial coastline. It is often a surprise to people to discover that Michigan has more coastline than any other state of the contiguous states. And that is just the State of Michigan alone. It is succeeded only by Alaska, by the way. So I just wanted to make that comment about it. The—and I could—I suppose I could ask Admiral Lautenbacher why that is not reflected in the number of grants or dollars given to the Great Lakes, but I will talk to you about that privately.

The—a couple of other questions. I am a little concerned, actually, about all the nay-sayers here saying, don't change it. It is great. I came to Washington with the idea of improving things, and I have to say almost everywhere I turn I hear that. You know, this has stood the test of time. It is wonderful. We shouldn't change it. And I am—as I said earlier, if someone hands you a lemon, which you seem to think you have received from the Office of Management and Budget, let us try and make lemonade out of it.

OPPORTUNITIES TO IMPROVE THE PROGRAM

Aren't there some improvements that can be made? Under what circumstances would you think it would be beneficial to be assigned to NSF? If, for example, the funding were tripled, would you think it would be better to be in NSF than in the present situation? If it were quadrupled? Quintupled? There must be some level at which you would say, yes, that would be a better thing to do.

Let me just ask across the Panel. What good things do you see coming out of this? What opportunities for improvement do you see? I can't believe that the program is perfect. I have never found one. Take it out of the context of the specific proposal. What should be done for the Sea Grant Program and the Coastal Ocean Programs that would really improve it, aside from the question of money, which we deal with on an annual basis? Anyone wish to offer any comments? Dr. Donahue.

Dr. DONAHUE. Just to reiterate one point I made, it has really been funding limitations that have prohibited the Sea Grant Program from getting as involved in region-wide initiatives as it has. I note that an average of $1 million is available per program per year for research funding. And if there were additional funds available, I think it would be a tremendous service to the Great Lakes region and other major ecosystems of the country to have an intensive focus on region-wide priorities that the regional organizations and the Sea Grants can work in partnership on.

PEER REVIEW PROCESS

Chairman EHLERS. But that is—again, your answer is that you just need more money. Just to give an example, I have heard criticism of the Sea Grant Program in that the peer-review system doesn't work as well as it should, that there are not standards—the standards aren't the same in every state. And so that a project that is funded in one state would not qualify for funding in another state. Any—Dr. Moll.

Dr. MOLL. Sea Grant had a lot of problem with its peer-review processes, and in the past 5 years they have made a lot of effort to improve that. I worked in the NSF in 1994 and 1995, and one of the things that I—and in recognizing that that was a 2-year rotation, and I was going to come back to Michigan and run the Michigan Sea Grant Program, we infused a lot of the NSF processes back to Sea Grant in an effort to improve the peer-review process. We are not entirely there, in my opinion, but we have made a lot of good positive strides.

The peer-review for Sea Grant will be best served if it is consistent from program to program and also on a national basis. And that doesn't rely on money. That relies on good sound judgment about the science in making sure that researchers are treated in a fair and even-handed manner. Dr. Rabalais, in Louisiana, should feel she is treated basically the same as somebody who might apply to California Sea Grant. And that, I think, would be some place where Sea Grant would benefit from working more closely with something like NSF or NIH, for example.

Chairman EHLERS. Whose responsibility would it be to improve that? Would that be under—in NOAA's bailiwick or do you think it has to be a self-wrought process in some way?

Dr. MOLL. A combination of both. I think the National Sea Grant Office should be the place that provides, and they have, the leadership, the nudge, the encouragement of the 30 Sea Grant programs, to follow suit. The programs need to take the owner—the responsibility to bring their own peer-review, if it is not up to the right standards. And then working together, the national office of the program should ensure that the even-handed policies are followed.

Chairman EHLERS. You heard the bells ring, so we will have a vote shortly. I believe there is time enough to recognize the Ranking Member for his questions, and then we will have to go vote.

STAKEHOLDER INVOLVEMENT IN THE TRANSFER DECISION

Mr. BARCIA. Thank you, Mr. Chairman. I will try to be brief. I have a few questions for Dr. Donahue. And if you could just respond quickly, Dr. Donahue, I think I can get through my questions for you today. First of all, did the Administration consult with any of its state partners about transferring the Sea Grant Program to NSF? And has NOAA or NSF met with any of the stakeholders about this transfer since the release of the budget and the public announcement of the proposed program transfer?

Dr. DONAHUE. I can give you a very brief answer—no.

SEA GRANT'S "FIT" AT NSF

Mr. BARCIA. And in your opinion, with your extensive experience with the Sea Grant Program in Michigan—and we appreciate the leadership you have provided the Great Lakes Commission—why, in your view, would the Sea Grant not be a good fit with NSF?

Dr. DONAHUE. The reason is the latter two parts of that three-legged stool that are Sea Grant—basically the education and extension functions. And the extension agents provide a wonderful service in Michigan. They are one arm of "government" that can go out into the public and say, I am from the government, I am here to help you, and be received with open arms. And it is an incredibly important function for us, as states, to get our word out. And education and extension are a much better fit in Sea Grant than what I have seen with NSF.

STATE AND LOCAL EXTENSION FUNDS

Mr. BARCIA. And one final question I would have. The Administration suggests that the lower matching fund requirements for NSF grants would free up state and local funds for additional extension activities. And I will just mention that I, too, as the rest of us from Michigan, I have some 600 miles of Lake Huron coastline in my Congressional district back in Michigan, and we have been suffering from low-lake levels, as you know, and this has caused tremendous anxiety among the property owners along the shoreline.

The requirements imposed by the Department of Environmental Quality in Michigan, as well as the U.S. Army Corps of Engineers have created a lot of conflict, I guess, in terms of managing the emerging rut-lands that are growing as a result of the lower lake levels. But do you believe, given the current budget constraints in Michigan, and possibly some other states, as a result of the recession that we are currently in, that the result would be likely that more or additional funds would be freed up from the state level or local level?

Dr. DONAHUE. I think it is highly unlikely. States have become fundamentally reliant upon Sea Grant extension for a number of functions. And in the tighter budget situation we have now, if we lose the Sea Grant services, I don't see them being replaced in any substantive way by the states.

Mr. BARCIA. Thank you very much for those comments. I have some other concerns, but given the time constraints and the fact that we have to be on the Floor, that will conclude my questions. Thank you, Mr. Chairman.

Chairman EHLERS. Thank you, Mr. Barcia. And we declare the hearing recessed as we go to the Floor to vote. We should be returning in approximately 10 to 15 minutes. Thank you.

[Recess]

Chairman EHLERS. Thank you for your patience. I am pleased we returned in record time. And we next recognize Mr. Gutknecht of Minnesota.

ALLOCATION OF SEA GRANT FUNDS

Mr. GUTKNECHT. Thank you, Mr. Chairman. And I apologize for not being here earlier. We have a Budget Committee hearing going on at the same time and so we are splitting duty here. And I always hate to be parochial, but if I am not, who will be? Let me come back to an issue of how the Sea Grant Program is administered, and in terms of basic fairness. Now, I like the State of Rhode Island. It is a beautiful state. But the numbers that I have been given are that Rhode Island receives about $2 million a year. And I guess this question is for Dr. Moll. And Minnesota only receives 900,000. Now, I understand that you can't always be completely fair, but perhaps you can tell us how some of those things are determined, because we take clean water pretty seriously back in Minnesota, as well.

Dr. MOLL. This is great, because I am from California and I am happy that—you know, bringing California is——

Mr. GUTKNECHT. California is a big state.

Dr. MOLL. Yeah. Right. I think that the basic tone of your question then is the allocation of funds within Sea Grant to the different Sea Grant programs.

Mr. GUTKNECHT. Right.

Dr. MOLL. And that is a question that I was told I would be asked in some form or other. And it doesn't have an easy answer. And so I am going to apologize for not answering this as directly as you would like, but I am going to try to be as honest as I can about the system.

And the Sea Grant Program funding is comprised of several pieces. One of those is what we call the core funds, and that is the number that you were just referring to. And, in effect, the core funds are—the distribution of core funds has been an historical thing within Sea Grant for many years, and it is not necessarily fair, but it is a system that we currently use that works. We have tried changing it and it has devolved into unsuccessful deliberation.

So what we are doing is, instead, using a different approach. We are going to leave the core funding—we are considering leaving the core funding in place because changing the formula has not proven to be workable or successful, but recognizing that every Sea Grant

Program, Minnesota, Rhode Island, California, included, could benefit in the long run from more support. As more support comes in the program, we won't follow necessarily the same pattern, but rather work toward improving the support of those programs, like Minnesota Sea Grant, that could use more support.

In addition, Sea Grant now has national competitive initiatives. And about 20 percent of the funds that are available for research and outreach are through these national initiatives. So a researcher or an outreach specialist from Minnesota can compete on an even footing with one from California or Rhode Island, and it is purely based on peer-review as to who wins the proposals. So that now 20 percent of the funds can flow to any program based on the peer-review process.

Mr. GUTKNECHT. But the answer—the short answer is right now 80 percent of the funds will stick to the old formula, which——

Dr. MOLL. Uh-huh.

Mr. GUTKNECHT [continuing]. In effect, is not fair to states like the one that I represent. And you have no plan—I mean, I am just—I am rephrasing what you just said. That the formula isn't particularly fair now. Eighty percent is part of the formula. Only 20 percent is on some other peer-reviewed distribution basis.

Dr. MOLL. Uh-huh.

Mr. GUTKNECHT. But that is the way it is going to stay.

Dr. MOLL. Well, it is—first of all, this is a decision that is made, in part, by the National Sea Grant Office and not me as a director of a Sea Grant program.

Mr. GUTKNECHT. Right.

Dr. MOLL. And——

Mr. GUTKNECHT. But would you prefer if we made the decision for you?

Dr. MOLL. No. No. No. And I would prefer that we take a look at this issue and——

Mr. GUTKNECHT. Well, I mean—and I will just tell you that the Congress, you know, generally—and we have been pretty good, I think——

Dr. MOLL. Uh-huh.

Mr. GUTKNECHT [continuing]. Since I came here, of not inserting ourselves——

Dr. MOLL. True

Mr. GUTKNECHT [continuing]. Too much in these kinds of decisions. But I think at some point we will stand by only so long——

Dr. MOLL. Uh-huh.

Mr. GUTKNECHT [continuing]. And then we will start to tinker, and we probably will wind up with even a bigger mess than we have today. So I want to—we hope you will take this message back——

Dr. MOLL. Absolutely.

Mr. GUTKNECHT [continuing]. To the people, that we do take this issue seriously. And it really is bigger than this, and it is not just about this particular program, but I think a lot of the way research dollars are distributed in the United States. And I will say this, not just for your benefit, but for the benefit of my colleagues and others who are here—and that is that we need to also look at some of the smaller colleges and——

Dr. MOLL. Uh-huh.

Mr. GUTKNECHT [continuing]. And even the black colleges, for example.

Dr. MOLL. Yeah.

Mr. GUTKNECHT. Because, you know, with some of the institutions that are getting large grants from various science organizations here in this city, you know, they round off to the nearest million dollars, where a million dollars to a smaller institution can mean a lot of money. And, you know, I think there is this attitude sometimes that only big institutions can really do the kind of research that we need. The truth of the matter is, I have been very impressed with some of the smaller schools and what they do. And, frankly, I have to say, my own impression is they do a better job of not wasting the funds that——

Dr. MOLL. True.

Mr. GUTKNECHT [continuing]. They receive. So it is an admonition, some advice. You don't want us to tinker, but we have demonstrated in the past that we will do that.

Dr. MOLL. Could I just respond one——

Mr. GUTKNECHT. Sure.

Dr. MOLL. And just to make sure I didn't leave a false impression, we are not going to stick with a system, per se. There is a committee within the national—and I am sorry, I sound like I am backpedaling and I think maybe I gave you the wrong impression.

Mr. GUTKNECHT. Well, this is Washington. You can——

Dr. MOLL. Yeah. I know. I am worried about the trap door underneath my chair. No. We are considering two things. One is, as more money comes into the program, we feel the allocation of funds to the different Sea Grant programs merits serious consideration so that those programs, like Minnesota, that need substantially more support, benefit from that. And, as such, there is a committee comprised of Sea Grant directors, people from the National Sea Grant Office, and people from the National Sea Grant Review Panel looking specifically at the issue of allocation of funds within the Sea Grant programs.

So to answer your question, no, rather than having you do it for us, we are doing it for ourselves now.

Mr. GUTKNECHT. Well, finally, my time has expired, Mr. Chairman. But I think the real question this Committee will ultimately want to know is, will that be done before we are asked to appropriate or authorize?

Dr. MOLL. That I can't tell you.

Mr. GUTKNECHT. Well, please help us with that. Thank you.

Dr. MOLL. Thank you. Sure.

Chairman EHLERS. The gentleman yields back. Next, I am pleased to recognize Mr. Baird.

FUNDING SHIP TIME

Mr. BAIRD. Thank you, Mr. Chairman. Admiral Lautenbacher, we have a number of projects in the Pacific Northwest, among them the Olympic region, the Harmful Algal Bloom project. These projects involve—they are fairly expensive and they involve Federal scientists going out on ships. And one of the questions and concerns I have is, it is my understanding, and, Dr. Moll, maybe you can help us here, that ship time is not allowed to be funded under the Sea Grant Program. Is that accurate?

Vice Admiral LAUTENBACHER. I think that is right. But I refer to Dr. Moll, who is the expert on it. But that is correct in my view.[1]

Dr. MOLL. Yes. Yeah. That is correct. And I think that was a creation of—when Sea Grant was created, that was part of the original Organic Act that use of Sea Grant funds would not be directed to the rental of vessels. And that is a two-edged sword. It prevents us from spending money to rent large research boats, but, on the other hand, when you have a program that is small, like Sea Grant, you can consume an awful lot of the program's resources in very short order in renting large research boats.

The way around this—and this is not elegant, but it works, is that a lot of the investigators bring research time as matching support for their projects. And, by and large, I would say that most investigators, when they need ship time, get it.

Mr. BAIRD. My concern is if we shift the Coastal Ocean Program to the Sea Grant Program. Under the Coastal Ocean Program they can rent ship time and——

Dr. MOLL. Uh-huh.

Mr. BAIRD [continuing]. And they can use Federal scientists. If we shifted to the Sea Grant Program, we lose the ship time, and I also understand we can't use—federal scientists aren't eligible for that funding. Is that accurate?

Dr. MOLL. I can't say for sure. But I would say, if we are contemplating the movement of the Coastal Oceans Program, let us do it in a win-win situation. Let us not undercut the current value of the Coastal Oceans Program, which includes those things that you just mentioned. In other words, they could be managed together, but they don't have to be managed the same.

Mr. BAIRD. So, in other words, if the Coastal Ocean Programs were to come under the rubric of Sea Grant, then conceivably it could operate under its existing rules rather than the Sea Grant rules.

Dr. MOLL. That is an administrative question, which I am not able to answer. But intellectually, that makes the most sense to me.

Mr. BAIRD. It makes a lot of sense to me. I——

Dr. MOLL. Yeah. Let us—if it is essentially not broke, it is not perfect, but if it is not broke, why take the pains to fix it. But we can benefit from some synergy between the two programs. The outreach capacity of Sea Grant and the national and regional capability of the Coastal Oceans Program can be blended together to make a whole that is better than the parts. Why not?

Mr. BAIRD. All right. That is good. My concern would be, we have got ongoing research that is very important to our region and if we suddenly transfer the program that research drops midway. We have effectively wasted possibly a lot of the early research. Dr. Rabalais, would you care to comment on this?

---

[1] NOAA clarifies, "Ship time can be funded under the National Sea Grant College Program. Provisions of the National Sea Grant College Program Act as amended at 33 USC 1124(d)(2)(B) say that 'the rental of any research vessel which is used in direct support of activities under any sea grant program or project' is allowed."

Dr. RABALAIS. Yes. The sort of research that I do is also very ship-dependent, just like much of the wonderful work that is being done off of the Olympic area, with Harmful Algal Blooms, especially. My ship bill runs 75 to $90,000 a year. And a typical Sea Grant grant to me might put $50,000 in my coffers, which has to pay for all of the personnel time just to get the work done.

So there is absolutely no way currently, under the Sea Grant program, that I could fund the sorts of research that I fund. And the mechanism exists right now within the Coastal Ocean Program to do these large regional scale programs with multi investigators, with the Federal academic interactions which we take very good advantage of. Because that way the work that we do directly infuses into the needs of NOAA in managing the Nation's resources.

Mr. BAIRD. Thank you. It just seems a little counter-intuitive to me that we are going to conduct ocean research without ships. I don't know——

Dr. RABALAIS. That——

Mr. BAIRD [continuing]. Maybe we are having a religious experience. We will just walk out there or something. It—I am going to come up with several more questions because I want to see our trap doors work. I am just teasing you, actually. But, Dr. Moll, and Dr. Lautenbacher, would you please—I hope you will be willing to work with this Committee to make sure that the Coastal Ocean Programs for research like Dr. Rabalais, and the ORHAB Program, etcetera, can continue. It would be a shame to lose those, either through funding cuts or through jurisdictional changes that eliminate the very fundamental ingredients of the research that has been so successful so far.

Vice Admiral LAUTENBACHER. Certainly I support the Coastal Ocean Program as it is currently operating.

Mr. BAIRD. Thank you very much. Thank you, Mr. Chairman. I yield back.

Chairman EHLERS. The—next, I am pleased to recognize Mr. Gilchrest, who is the sponsor of the bill that has had some discussion this morning. Congressman Gilchrest.

MR. GILCHREST'S RESPONSE TO DISCUSSION OF HIS BILL

Mr. GILCHREST. I thank the Chairman. And I want to thank the Chairman for holding this hearing this morning, and the witnesses for the information that we have received and are in the process of digesting. Secondly, I want to thank President Bush and the Administration for offering this rather very interesting controversial proposal for Sea Grant because it brings out a lot more knowledgeable people to discuss the issue than would have otherwise been the case.

It is very easy for us up here to make decisions and be certain without a lot of information. Certainty without knowledge is solid. But as soon as we assume a little more information, then we begin to become a little uncertain, which is a good thing. It makes you a little more—it creates a little more humility among people who generally may not have a great deal of humility. Not anybody up here, though, falls into that category, except maybe myself.

I would like to—Mr. Baird has left, and the proposal in the bill that I have to move the Coastal Ocean Program, and move it together with the Sea Grant Program, would ensure that a grant, for example, to Sea Grant, would not have to spend any of that grant money for vessel time or vessel expenses. That would be—that jurisdiction and that balancing act, we think, we have pretty solid in the bill.

Just a—I would like—Dr. Moll recommended, or at least said, that maybe we should wait for the Oceans Commission's study to come out before we begin any major changes with the Sea Grant Program, especially moving it into the National Science Foundation. And, at this point, I would agree with that.

Also, in our bill, we do move the Coastal Ocean Program in with Sea Grant. And I will have to tell you, I am a little less certain about that now than I was before—not ready to pull it out, but a little less certain, which brings me to a question for Dr. Rabalais. Did I say that right?

Dr. RABALAIS. It is Rabalais.

BENEFITS OF SEA GRANT/COP COLLABORATION?

Mr. GILCHREST. Rabalais. Rabalais. One of your concerns with moving the Coastal Ocean Programs in with Sea Grant was, for example, the Coastal Ocean Program has a broader picture. Sea Grant has a narrower focus, state by state, university by university, which is interesting because that is one of the reasons I wanted to move it into—move those two programs together.

So the question I have is, wouldn't—well, it is a two-part question. Does the Coastal Ocean Program benefit from the narrower focus of the Sea Grant Program in any collaborative fashion? And wouldn't both programs benefit from a more collaborative approach where you have Coastal Ocean Program—looking at the big picture—and you list them here. The focus for the first one you have is national problems, generic issues, and U.S. bills and Federal partnerships, and so on. National problems. Sea Grant more applied to state priorities.

And, in my experience as a legislator, we have so many different agencies and departments and people that have a stovepipe view of things, that if they move together and collaborate on these things, occasionally, they both benefit from that.

We have heard the saying think globally and act locally. I just read an interesting rephrase of that by E.O. Wilson, where he said we should think globally and also think locally in our actions. So I just—that is sort of an ambiguous question, but I would just like you to respond to it.

Dr. RABALAIS. It is—it certainly was. I am not sure exactly what to answer at this point. They are very different programs, as you mentioned. And you are obviously reading from my table in my written testimony. One focuses on more local issues and one focuses on more regional U.S. issues. And the question is, can they both benefit from being merged in some way?

I think the dictates of those two programs are already working synergistically without any movement of money or personnel. I think both of those programs are serving the Nation's needs in very different ways. And I don't think one is doing a better job than the other. I think they are both serving their purposes. And both of the types of research that is generated from each of those programs serves marine resource managers, either whether they are in the State of Louisiana or Maryland or whether they are looking at the global picture of interregional use of resources such as along the Atlantic coast or something like that.

So I guess my message in my testimony is that they are both working very well right now for the purposes that they were designed, and there is a lot of communication between those programs already and between the various scientists that are funded by both of those programs.

Mr. GILCHREST. Mr. Chairman, if I could just ask Dr. Moll—or Moll.

Dr. MOLL. Moll.

Chairman EHLERS. Yeah. We will give you leave to extend your time a little.

Mr. GILCHREST. Thank you very much. Could you respond to that question as well?

Dr. MOLL. Pardon me. I have got a cough drop in my cheek. So I think there is a lot of merit in looking at bringing the programs together, as long as we do it in a win-win situation. And why can't we do it in a win-win situation? We can get them to work, as you said, better as a whole without compromising the basic function of the programs. It is unfair and unreasonable to think that the coastal ocean funds would be used to simply supplement the core at Sea Grant programs. I don't think that is your intent, and I don't think that is what Sea Grant wants. By the same token, Sea Grant doesn't envision devoting money from its core to the Coastal Ocean Program.

But there are some things that each program does that could support and improve one another. And I mentioned two of them in my testimony. One is, the average capabilities of Sea Grant brought to bear on the Coastal Ocean Program could be a big win. We have got a tremendous capability in outreach in Sea Grant, both in terms of extension and education. And, perhaps—I can't see why the Coastal Ocean Program research wouldn't benefit from that.

Sea Grant's research, as you have pointed out, has tended to be a little bit, I wouldn't say parochial, but more—a little bit narrower in focus. It is generally state by state or small region by small region. The Coastal Ocean Program brings a nice supplement and it has a more national or regional focus. So it would enhance Sea Grant's view to have that kind of perspective.

And then the last thing is we have this constraint of the ship time that we have talked about within Sea Grant. It is a way to possibly move around that issue by having the two programs together. It is both an intellectual thing and an administrative thing, and the idea is to do so in a creative and supportive mechanism.

Chairman EHLERS. The gentleman's time has expired. I have granted him a little extra time. I recognize Mr. Gilchrest is one of the leaders in environmental aquatic work and also the sponsor of H.R. 3389. I now turn to Congresswoman Rivers.

TRANSFER TO NSF

Ms. RIVERS. Thank you, Mr. Chair. Admiral Lautenbacher, I have a question because I have been trying to understand the impetus for this move of Sea Grant from NOAA to the NSF. What—whose idea was this and what is the reasoning for doing it?

Vice Admiral LAUTENBACHER. It goes back to the comments I made in my brief statement. I think within the Administration there is—was a need to take a look at peer-reviewed science, look at the management of that as a class, object of things that we do in the government, and to do that in the best way possible—to look for the benchmark, role models for peer-reviewed science. They have looked at the way the NSF managed—they, meaning Office of Management and Budget—looked at the way NSF manages their basic science portfolio. They liked what they saw in terms of their structure and the regional—and the accepted—I guess the credentials they have for peer-reviewed processes. So that was a major driving factor in this decision.

Ms. RIVERS. And you didn't believe that changes could be made in the peer-review process in situ at NOAA?

Vice Admiral LAUTENBACHER. I believe, as I said in the beginning, there are pros and cons. Certainly you could make changes within—and this is not—was not an easy decision within the Administration. You could certainly make changes within NOAA. I don't dispute that at all. But given the fact that NSF is already set up with this system that is part of their culture with a huge management structure, why not take advantage of something that is already in place?

Ms. RIVERS. Oh. So then what other peer-review programs are going to be moved into NSF?

Vice Admiral LAUTENBACHER. Well, there were several that are under consideration. My—the Smithsonian. There was something from Interior. I can get you a list. But they did look—this wasn't the only program that was under consideration.[2]

Ms. RIVERS. And they are going to be moved into the NSF.

Vice Admiral LAUTENBACHER. Let me get back to you which ones finally moved. Not all the ones that were initially proposed were moved.

Ms. RIVERS. One of the——

Vice Admiral LAUTENBACHER. This one was chosen to be moved.

Ms. RIVERS. Okay. One of the things that I have noticed in my time in public office, not just here in Congress, but at the state legislature as well, there is a tendency when programs are moved to not have all of the money actually end up at the partnerships. There is an expectation that somehow you can put these two programs together and do more for less. Is it the intention of the Administration that the budgets of the two programs, the NSF, and the Sea Grant Program, will remain the same or will grow as they would normally grow through the budget process? Or is it the intention of the Administration that NSF is going to be expected to use some of its dollars to cover Sea Grant expenses or vise versa?

Vice Admiral LAUTENBACHER. I think it is hard to predict what the future course is. The program has been transferred intact. The amount of money that is in there is probably somewhat less than would have been put in if it had originated from the NOAA budget line item. Given the track record and efficiencies in management, the fact that the state matching grants are not required any longer,[3] I believe that the decision was made that there is flexibility in there to keep that program going and with the dollars that were transferred and with the dollars that come from the state level.

---

[2] "NOAA clarified, 'In addition to the National Sea Grant College Program, the following programs have been proposed for transfer to the National Science Foundation in FY03: The Department of the Interior/U.S. Geological Service's Toxic Substances Hydrology Program; The Environmental Protection Agency's Environmental Education Program.'"

Ms. RIVERS. So it will be less money though.

Vice Admiral LAUTENBACHER. It—my—and you need to ask the NSF.

Ms. RIVERS. I mean, this is—this——

Vice Admiral LAUTENBACHER. My understanding——

Ms. RIVERS [continuing]. Without a doubt, is a budgetary decision. So certainly the numbers are known.

Vice Admiral LAUTENBACHER. The numbers are known. My understanding is the number is about 5 million less than would——

Ms. RIVERS. Okay.

Vice Admiral LAUTENBACHER [continuing]. Most likely have been proposed should it have remained in NOAA.

Ms. RIVERS. Okay. You mentioned——

Vice Admiral LAUTENBACHER. I will put it that way.

Ms. RIVERS [continuing]. The states. And this Administration is very strong on giving more authority to the states. Sea Grant currently has a significant contribution from the states. Were the states consulted on this? Was there a discussion on how they felt and whether they had concerns?

Vice Admiral LAUTENBACHER. I am not aware of any, and I would go back to the—our normal budget process. Is it an in-house executive department, deliberative process in which it is done, you know, without——

Ms. RIVERS. Right.

Vice Admiral LAUTENBACHER [continuing]. Conflict of interest? We try to build the budget internally and then deliver it to Congress——

Ms. RIVERS. Well, where would be the conflict——

Vice Admiral LAUTENBACHER [continuing]. In its pure form.

Ms. RIVERS. Where would be the conflict of interest? If the states are contributing ⅔ of the cost in its collaborative efforts, it is a conflict of interest for them to have input?

Vice Admiral LAUTENBACHER. I think when the Federal Government makes its budgets decisions, they are done in-house. That is the custom that is followed that is considered good business practices to do it that way. If you were to allow various people to come in at various parts of the process, you would end up with a great deal of controversy over how the decisions were arrived at. I can tell you how these decisions were arrived at. They were arrived at internally in our normal budget process without bringing in outside consultants.

---

[3] NOAA clarified, "grants are reduced to 1%."

STATE/FEDERAL RELATIONSHIP ON SEA GRANT

Ms. RIVERS. Okay. Dr. Moll, I am just curious—in the past, what has the relationship between the states and the Federal Government been like on the Sea Grant Program?

Dr. MOLL. I think it has been a wonderful partnership. The matching——

Ms. RIVERS. Has it been collaborative?

Dr. MOLL. Oh, yeah. Yeah. The matching provision means that the states have to, in essence, come up with money to be part of playing the Sea Grant game. When they come up with money, they are vested and they want to have a say and they should have a say, and they develop partnerships. And the partnerships work well.

In the case of California, we get almost half of our total support for California Sea Grant from local sources. So the states recognize this is a valuable program. We are getting benefit. We are going to contribute money.

TRANSFER TO NSF

Ms. RIVERS. Okay. Dr. Donahue, just—I know my time is up, but I just want to follow up because I want to give you a chance to speak to how this process has felt when it is all being decided in the White House budget office.

Dr. DONAHUE. Well, my view would be that if you want to make a partnership program successful, you need to have a partnership in developing that program. I think it is fair to say that the Great Lakes states were surprised by this initiative, not pleased by it. Hence, my testimony opposing it. And I will say that if there was a change in Sea Grant where it was moved to NSF, and you lost the education and extension functions, it would no longer be Sea Grant. Perhaps, by name, it would be. But in reality it would be another coastal water research program. That is great, but it isn't the whole picture. And there was no consultation that I was aware of on this proposal within the states.

Ms. RIVERS. Thank you. Thank you all. Thank you, Mr. Chair.

Chairman EHLERS. Thank you. And next, we recognize Mr. Smith.

Mr. SMITH OF MICHIGAN. Mr. Chairman, first let me say, I am disappointed that we have such a one-sided Panel. I would have hoped that we could have had a Panel that was representing both sides of this discussion. Namely, somebody from the National Science Foundation, where the—who is the suggested recipients of this program.

When I hear comments—Dr. Rabalais, that everything is going just as it should, and I think that is what you have said, in the two programs, I guess I am under the impression that they are not going as they should. That—and also, as a representative, Admiral, of the Administration, let me say if this—as Chairman of the Research Subcommittee that oversees NSF, that if this is transferred to NSF, then it is going to mean that with the funding for administrative and 18 personnel with a reduction of approximately 20 individuals that are running the program under NOAA, it is going to be a stress factor on NSF that is going to mean that other programs are going to have to give up some of their staff people to help run this program. So the reduction in funding and support with this transfer is something that needs to be reviewed and the consequences of that.

Let me say, in follow up, on the funding of the program, it is my understanding that—and, Ms. Katsouros, it was my understanding the four—in '94—was it '94 that you recommended that if they can't comply with the recommended changes that it be moved out of NOAA? And I hear you today suggesting that NOAA—it should stay in NOAA despite the fact that we haven't accomplished the recommended changes?

Ms. KATSOUROS. Well, the recommendation was that if it couldn't be moved or elevated so it would cut across all the line items and have more visibility. People know it is there. The outreach is there. The extension services are there. Then one would consider moving it to NSF.

And, yes, since that came out, we thought about the importance of the outreach. I am no longer at the Academy. But I have spoken to some of the Panel members and the chairman of that report. As individuals, we would not support the move now to the National Science Foundation because we would be afraid that we will lose some very important parts. One is the extension and one is the outreach at our time when our coastal oceans need those services.

Mr. SMITH OF MICHIGAN. It—one of my—one of the things that I need help in evaluating is a national need versus a state need. So as we give these grants to individual states, and then the states develop their own systems of review and analysis, I suspect, Dr. Donahue, sometimes selfishly, in terms of the interest of that particular state.

MEETING NATIONAL NEEDS

And even though Michigan gets about a million bucks for this program, that gives me a little bit of bias to keep as is. I still wonder if there aren't some national needs and some capabilities, research capabilities, in those smaller—those states and research units that have a lesser funding, that probably could accomplish some of the goals that actually might be a greater need than some of the goals in a state that is divided up among the grants. I am not saying that well, but I see some nods of the head. Is there a better way to decide on which research projects are going to better serve a national need in our effort to—in our effort and goals in Sea Grant? And I don't know where to start, but just start talking. Dr. Moll, go ahead.

Dr. MOLL. Yeah. I seem to be in the warm seat this morning. Yeah. There is value in that. And one thing that I mentioned very briefly in my testimony, but we haven't picked on very much, is that the national network component of Sea Grant, there are individual programs—there are 30-such. But then the 30 programs themselves work as a national network. And that is where national needs and priorities enter into the picture, along with support and work through the National Sea Grant Office.

So, for example, Sea Grant has a well-deserved national reputation as a leadership—leader position in seafood safety. It is important to train the people who work in the seafood processing plants on the right and safe methods to handle seafood so we can assure the quality. Sea Grant has done a wonderful job in that, recognizing that California Sea Grant or Michigan Sea Grant or Minnesota Sea Grant can't do it individually, but collectively, Sea Grant programs have been bringing the horsepower to make it happen. And they do.

Mr. SMITH OF MICHIGAN. You mentioned—and I am trying to hit a lot of things, Mr. Chairman. Maybe, if you are doing a second round, I will just stop and we can do a second round. But in the formula for distributing——

Chairman EHLERS. We will——

Mr. SMITH OF MICHIGAN [continuing]. The money to states——

Chairman EHLERS. We will be doing a second round, but you can finish this question if you want.

Mr. SMITH OF MICHIGAN. Uh-huh. Maybe I could go ahead and do my second round right now.

Chairman EHLERS. No.

ALLOCATION OF SEA GRANT FUNDS

Mr. SMITH OF MICHIGAN. The question on the formula for——

Dr. MOLL. Uh-huh.

Mr. SMITH OF MICHIGAN [continuing]. How you decide which states get how much money.

Dr. MOLL. Uh-huh. Yeah. And that—let me say——

Mr. SMITH OF MICHIGAN. Is it too much politics in making that decision rather than a greater national need of how we are going to decide on research projects?

Dr. MOLL. It is a really complicated issue and it is not a California Sea Grant decision really. It is a decision made at the National Sea Grant Office. I am not trying to pass the question off. It is a very important one. But it is historic, in some sense. But it also is predicated on perceived need within the different Sea Grant programs. But overlaying all of this is the recognition that in the 1980's, Sea Grant, in general, was level-funded and, as a result, all the programs are underfunded.

And the solution, if we are talking about allocation and resources, isn't to take a simple pie and try to cut it up in different pieces and make everybody unhappy.

Mr. SMITH OF MICHIGAN. Yeah. Well——

Dr. MOLL. The solution is to look at the need, enhance the program, make it stronger, and don't necessarily follow the formula as you make it stronger. And that is precisely what we are doing.

Mr. SMITH OF MICHIGAN. Mr. Chairman, thanks. What does the Administration think about the funding outreach?

Chairman EHLERS. I am going to have to cut you off, and we will give you a second round question.

Mr. SMITH OF MICHIGAN. Well, just right that down. I have got a speech I am supposed to give at 12. But, thank you, Mr. Chairman.

ALLOCATION AND PEER REVIEW

Chairman EHLERS. All right. Fine. Thank you. We will begin the second round now. I grant myself five minutes. And a host of issues—I think you have gathered there is some dissatisfaction with funding. And each of us can cite examples of that.

Just to get it on the record and express my concern to Admiral Lautenbacher. The State of Michigan received, during this past year, $2.4 million total. That includes Federal money, state money, and pass-through money. The State of New Hampshire received almost exactly that same amount in pass-through money alone. Their coastline is minuscule. Michigan's is 3,270 miles. That just seems to me a very, very strange decision. The pass-through money, as you know, is separate from the grant money. And I don't—I want to put that in a broader context here and you can answer it in the broader context.

But that is—I—you can sense a lot of dissatisfaction in the Congress with the way things are. There is a great inequity, perceived or real. There is certainly that perception out there that the money is not distributed equitably. There is also a perception that the peer-review program is not working very well. Why not have, for example, the state grants peer-reviewed as well? Instead of having the automatic 80 percent that goes through largely for historic reasons, have each state program submit a proposal to NOAA or NSF, whoever it might end up being, outlining a program of how they propose to spend the money, what it will be used for, what their programs are? And have that peer-reviewed by a very good panel instead of the automatic allocation we have now, which is very, very hard to justify because it is historically based.

The—if it goes to NSF, I suspect that would happen. If it stays in NOAA, how are you going to address that problem and deal with it? The allocation between states is simply not appropriate in the view of, I think, everyone on the Committee and, I think, in the view of many people. Obviously, those who get a lot of money think it is a great system. But it is not allocated equitably on the basis of quality of work done, need for work to be done in that state, etcetera. So I would appreciate some comments on that. We will start with you, Admiral, and we will go down the line.

Vice Admiral LAUTENBACHER. Thank you, Mr. Chairman. Let me talk for just a second about the system as it is set up. It is set up with an infrastructure. And because of the funding levels in this program, about 40 or 50 percent is set up to build this infrastructure that does the education and the outreach and the transfer of technology, which is very important, the two legs of the stool that we were talking about.

Because of that, that is sort of a basic structure, that if you vary it year to year, you are going to lose the people, the talent, the base that you have set up to actually get that technology transferred down to the people that need it. So there is a certain element of this program that needs to be relatively fixed or it loses its effectiveness. And that cuts down on the amount of money that is available for the competitive grants.

Chairman EHLERS. Let me interrupt. I can make that argument for any research grant that NSF or DOE or anyone else gives. If you can't—if you don't have the guarantee for money, people are going to move. It would be a transient program. But it seems to work very well in those departments. Why can't it work here?

Vice Admiral LAUTENBACHER. We are not talking about research here. We are talking about——

Chairman EHLERS. I know. I mean, I don't see a difference here.

Vice Admiral LAUTENBACHER [continuing]. Technology transfer. We are talking about extension—extension agents, people who are trained who spend time and understand the community. They are tied with the university and the——

Chairman EHLERS. I don't envision them losing their jobs if they do a good job. The point is why the allocation has been set historically in a certain fashion and it is, by most measures, inequitably allocated among the states. How are we going to change that and how are we going to make sure we get our money's worth? Go ahead.

Vice Admiral LAUTENBACHER. Well, I would turn it over to the customers to tell me how inequitable it is. But the system—I, like you, have never met a Federal program that couldn't stand improvement.

Chairman EHLERS. Yeah.

Vice Admiral LAUTENBACHER. So I am not going to say that we have a perfect allocation system and a perfect Administration. We certainly do not. And in my bottom-up review that I am doing, I intend to take a look at it and see what we can do to improve it so that it is more transparent and appears to be fair to a larger constituency base than it does right now. So I will say that—state that up front.

Chairman EHLERS. Well, I think that is absolutely essential. I mean, that, I think, is the origin, much of the origin of the recommendation of OMB. I think they are also dissatisfied with the program and the process and want to make it—correct some of these problems I have raised. I will give the others a chance to respond before we move on to someone else. Dr. Moll, do you have——

Dr. MOLL. The—two things. One is, each year, each Sea Grant Program, of the total 30 programs, does submit a proposal to the National Sea Grant Office for its support.

Chairman EHLERS. Are those peer-reviewed?

Dr. MOLL. And they are peer-reviewed, yes, but in pieces, but not as an entire proposal. So the research is peer-reviewed, the outreach, the education. All of that is peer-reviewed and put together as a proposal sent to the National Sea Grant Office. The National Sea Grant Office participates in an observer role in the peer-review process that each individual program conducts. So that mechanism is invoked.

And a lot of the peer-review processes are very similar to those used in the National Science Foundation. There are some differences because the nature of the program is a little different, but a lot of it is very reminiscent and familiar to you.

Chairman EHLERS. May I ask if the education and outreach programs are also—and extension programs are also——

Dr. MOLL. They are. And they are reviewed——

Chairman EHLERS. Okay.

Dr. MOLL [continuing]. Truly as a peer. In other words, they are reviewed by people with expertise in education and outreach, not by—necessarily by a scientist. Otherwise, it is a little bit unfair because you are comparing different types of projects. But, yeah, they——

Chairman EHLERS. And what system is in place to determine the actual needs of the applicants as compared to—comparing them to each other?

Dr. MOLL. On a state-by-state basis or a Sea Grant——

Chairman EHLERS. Yes.

Dr. MOLL. Sea—and that is the—that is, I think, where you have put your finger on a bit of the weakness. There are needs perceived based on the population of the state, the length of the coastline, but, to my mind, the entire network is underfunded because of the fact that each state has demands that are vastly outstripping the needs of the programs.

And how do we solve that? I choose not to solve that necessarily by taking the current existing pie and reallocating it, but by looking at what are the true needs? And that, I think, would be greatly served by a peer-review process, and then trying to derive something that works to the betterment of the program. After all, the purpose here, as I understand it, is to do just that, make the program better and stronger.

Chairman EHLERS. Anyone else want to respond to that before I—yes, Dr. Donahue.

Dr. DONAHUE. Just briefly, I would like to say that I do sense some dissatisfaction within the Great Lakes states in terms of the baseline allocation. I personally see merit in taking a good objective look at the overall process. And, it was mentioned before, let us involve the customers. Let us not make it an insulated process, but let us get the states and the constituents and those that are putting up a significant amount of funds to get directly involved in the decision.

I think, from the states' perspective, the bottom line is we want quality programs. And we think that, perhaps, transferring NSF procedures over to Sea Grant is the way to go as opposed to transferring Sea Grant over to NSF.

Chairman EHLERS. Let me just—before I recognize Mr. Gilchrest again, let me just say, I have—I come to this with an open mind as to whether the transfer is the reason—I am saying the reason it is proposed is that there is a problem, certainly a perceived problem. And I think clearly we have to deal with some of these issues here. It is not just change for the sake of change, but change for the sake of improvement. My dream is a better program, more fairly administered, with a lot more dollars. You are just not going to get the more dollars without having a better program. And I can tell you, that is simply the way Congress operates. Mr. Gilchrest, do you have any further questions?

Mr. GILCHREST. Thank you, Mr. Chairman. I would concur with Mr. Ehlers—Dr. Ehlers. I think the goal of all of us up here is to find a way to administer a program that helps us understand the nature of the problems in our coastal areas in a small way, in an area around the Chesapeake Bay or an area of the Great Lakes or the Gulf of Mexico. And then look at the big picture, as well, and find a way to get that information that is researched, understood, into the minds of the people that make the land use decisions on the local level.

And until we do that, we will continue to have the kind of extraction or unbridled development that causes a nutrient overload that creates the problems with the habitat, the fisheries, algal blooms, pfiesteria, the whole ball of wax. So my keen interest is to see the big picture, find out what the puzzles are, find the pieces to those—to that puzzle, and then put them in place. But we can't do that, basically, I don't think, while we continue to have a stovepipe—and I hate to use that phrase—everybody uses that phrase. But very often I see in agencies, they look at what the responsibilities are.

Unless there is some rigorous leadership above that agency, the agency carries out its responsibilities. So we are—I think, both the Resources Committee and the Science Committee are pursuing an understanding so that we can move forward and do what is best. This is not a jobs program. And certainly there are not enough tax dollars that go into this program to do what needs to be done.

FUNDING FOR NEW HAMPSHIRE AND MAINE

So I just have two closing questions. One is sort of an academic question. When we are looking at the funding to, let us say, Michigan, as opposed to New Hampshire, is New Hampshire and Maine one program—so the funding that goes to New Hampshire is, in fact, more than the funding that goes to Michigan, and not just New Hampshire and Maine together?

Vice Admiral LAUTENBACHER. Yeah. They have split them. There are two different programs now. New Hampshire and Maine. Huh?

Unidentified SPEAKER. But they just split.

Vice Admiral LAUTENBACHER. They just split.

Mr. GILCHREST. Oh. They just split.

Vice Admiral LAUTENBACHER. They just split.

Mr. GILCHREST. So the dollars that we see now in New Hampshire, because they have been split, is that still more or about the same as it is for Michigan?

Chairman EHLERS. The—answer that——

Vice Admiral LAUTENBACHER. I don't have that off the top of my head. I will have to get that for you and put it in the record.[4]

Chairman EHLERS. The pass-through funds alone are equal to the total that Michigan received.

Mr. GILCHREST. Just for New Hampshire.

Chairman EHLERS. Just New Hampshire.

Mr. GILCHREST. Not New Hampshire combined.

Chairman EHLERS. Yeah. Just for New Hampshire.

INFORMATION EXCHANGE UNDER NSF

Mr. GILCHREST. The other question is, Admiral, the Bush Administration—and I think this is the right way to go—in a number of areas, including the Endangered Species Act or Climate Change, etcetera, wants the best available science to make—to give the information so that policy changes can be made that are appropriate.

If Sea Grant is moved to the National Science Foundation, I am a little bit vague on how the Sea Grant Program, as far as the extension agents are concerned, and that research component, with that information, can be given to people on the ground in those areas, whether it is seafood safety, whether it is oyster research, or implementation of a better management regime for a coastal area. Do you see any breakdown in the pass-through of the best available science in your new configuration?

---

[4] See page 69.

Vice Admiral LAUTENBACHER. I think that the pass-through goes in two directions. The pass-through is a comeback to the governing bodies to look at and see what the public policy should be. And I think that pass-through or pass-back is established within NSF just as it is established within NOAA. So their programs produce research and science. It is available to everybody. It is published. It comes back up through the system. It is available to you. It is available to the President. And so that works fine. And I mean, I don't see any difference in shifting the programs.

Mr. GILCHREST. I would——

Vice Admiral LAUTENBACHER. Now, if you go the other way, pass it back down——

Mr. GILCHREST. Right.

Vice Admiral LAUTENBACHER [continuing]. To the citizens and the people and the folks who are in the field actually trying to do habitat reconstruction, trying to conserve resources, fishing, all of the economic activity, then we would have to work very hard with NSF, and I would be committed to do that, to try to keep some sort of a system going.

Obviously, it wouldn't be the same way it is set up now, because the funding would not be—and the management structure would not look exactly the way it is set up with our national Sea Grant. So we would have to work that out, and the Administration is committed to doing that between NOAA and NSF, a partnership to try to ensure that that activity does take place.

Mr. GILCHREST. I would be very interested in that because the problems in our coastal areas, to a large extent, are done by people who make the decisions about land use and other practices that don't read Science Magazine or don't read Smithsonian Magazine or don't call up the National Science Foundation. They are the cousins or brother-in-laws or friends of the county commissioners that happen to appoint them to the planning commission.

Now, there is nothing wrong with that, except we need to inject in that a very real physical presence of a human being that knows that kind of information and makes it available.

Vice Admiral LAUTENBACHER. I agree.

Mr. GILCHREST. Thank you, Mr. Chairman.

CHAIRMAN EHLER'S CONCLUDING THOUGHTS

Chairman EHLERS. The gentleman's time has expired. Just—we will try to wrap it up now. I very much appreciate the comments of Mr. Gilchrest. He has a deep interest in this and a great deal of wisdom. And I have always appreciated his advice on these issues.

Let me, first of all, say, just to clarify, I just made the comparison of pass-through money. The total amount of money going to New Hampshire is about—in the neighborhood of $5 million, twice what Michigan receives. And I am not here advocating just for Michigan. I want to make it clear, I want the best possible program. I think we have some major ocean issues to deal with. And I include within that the problems with the Great Lakes. We have invasive species, a major problem within the Great Lakes. I consider that a part of the issue.

But the fisheries problems—huge difficulties with developing fisheries. And there seems to be a good deal of uncertainty about the correct scientific approach to dealing with those problems. I am also very strongly in favor of the extension. Frankly, I would like to see extension be part of every scientific agency because I think it is that important.

When I was in the State Legislature in Michigan, I was always astounded that when Michigan State University develops new research pertinent to agriculture, the next year, the farmers were using it in the fields. Yet, in most areas of scientific research, it takes approximately 20 years for things to filter down to the public and really be fully used as they should. And I think the reason that that works so well in agriculture is because of extension. I would like to see that in every scientific arena.

So I think the basic idea of the program is very good. The question is, how can we improve it and how can we make the allocation more fair? How can we make this the program at the top, so to speak, the one that everyone involved in fisheries will go to—go to the scientists and say, what do we—what should we do about fisheries? They—you will become the source of knowledge, the repository of knowledge, and the initiator of knowledge. That is an ambitious program, but it is going to take some ambitious thinking to get there.

Whether or not moving it to the NSF would accomplish that, I am not prepared to judge at this point. I do suspect that for—if the transfer does take place, there would be enough dislocations for the first few years that things would get worse. Whether they would be better in the long run, I am not sure.

Similarly, combining the Coastal Ocean Program with the Sea Grant Program, again, I think, in theory, that is probably a good idea. I do worry, however, about the ramifications of it, the practical ramifications, such as use of ships. I worry about a very practical ramification in the Congress because the appropriations process is such that appropriators probably would not shift as much money into the Sea Grant Program to make up for that as is currently allocated in the Coastal Ocean Program. And that is just the way the appropriation process works.

So there is a whole complex of issues here to deal with. I do appreciate your testimony. It has given us considerable insight. But I hope you understand our frustration as Members of Congress in really wanting to make it a better program. And I started out talking about encouraging you to think outside of the box. I will modify that now in view of Mr. Gilchrest's comments. I ask you to think outside the stovepipe about how we, as a Nation, can best address the issues of research, education, and extension, and a framework that really makes sense, that will benefit the Nation as a whole, and will be so good that the Congress will be happy to appropriate more money for your efforts. Ms. Katsouros.

Ms. KATSOUROS. Mr. Chairman, I feel I have to make some comments regarding this. In the social sciences, if you are looking for the research on the management of marine fisheries, on the legal status of marine fisheries, you go to the Sea Grant literature. The Sea Grant has been the one, the very strong supporter of much of the social science that would not have been supported by others from very early on. And they should be congratulated for that.

I am not certain about the allocation, and, perhaps, it does need to be re-examined. But the Sea Grant Program has given us a lot of good research, especially in the social sciences and aquaculture, and some other things. There is not enough money for the issues that are facing our coastal oceans. There is $62 million and it is met. But when you think about it, land grant gets $549 million. It is a big difference, and we have more coastal ocean area than we do actually land grant.

So I think that, you know, I know everybody says we need more money, we need more money. But I actually think Sea Grant does need more money, and I am not a recipient of any Sea Grant research funds. I do think it is an outstanding program. I think it should be with an applied agency. It needs the Nation—it is applied research. It is research to answer a question and to provide answers for decision-makers. It is very different than the kind of research that is done today at NSF.

And I would hope that we would be able to work together to, perhaps, refine the allocation system, but work with you and the Resources Committee to make certain that it has the resources it needs to do the very important job at hand. And I agree, the coastal oceans, from fisheries to non-point source, are really important matters that need all of us working together on. And I think someone should just stand up and say, Sea Grant has done an outstanding job with the funds that it has over the years and that——

Chairman EHLERS. Thank you for your comments. I don't really disagree. But what we are looking at here is how can we make it even better. And, particularly, if you want more dollars, the Congress has to be happy with you. That is a simple fact of life. And that——

Ms. KATSOUROS. Well, we are looking to make you happy. We are definitely looking. If that is what it takes, we want you to be happy, and we would like to work with you. I know that the Admiral over here would be very pleased to work with you to make this a stronger and better program and his Sea Grant people.

Chairman EHLERS. Thank you. And I can assure you I am almost delirious with joy. But that has to be something common to other Members of Congress as well. But I do want to thank you and say that not only, Dr. Rabalais, but all of you are wonderful people. We do appreciate you coming here and we appreciate your testimony. It has been very, very helpful to us, and thank you for coming. The hearing stands adjourned.

[Whereupon, at 12:12 p.m., the Subcommittee was adjourned.]

Appendix 1:

Biographies, Financial Disclosures, and Answers to Post-Hearing Questions

Conrad C. Lautenbacher, Jr.

Vice Admiral Conrad C. Lautenbacher, Jr., U.S. Navy (Ret.)
Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator

A native of Philadelphia, Pa., and a graduate of the U.S. Naval Academy (Class of '64), Vice Admiral Lautenbacher has served in a broad range of operational, command and staff billets.

Operational tours include Division Officer in USS WASP (CVS-18), and USS HENRY B. WILSON (DDG-7), a second tour on the USS HENRY B. WILSON (DDG-7) as Department Head, and Executive Officer of USS BENJAMIN STODDERT (DDG-22). Areas of expertise include Anti-submarine Warfare, Anti-air Warfare, and Naval Surface Fire Support, with expertise gained during a number of deployments to the Western Pacific and Southeast Asia during the Vietnam War.

Command experience includes tours as Commanding Officer of USS HEWITT (DD-966), Commander Naval Station Norfolk, Commander of Cruiser-Destroyer Group Five with additional duties as Commander, U.S. Naval Forces Central Command Riyadh, during Operations Desert Shield and Desert Storm, where he was in charge of Navy planning and participation in the air campaign. As Commander U.S. Third Fleet, he introduced Joint training to the Pacific with the initiation of the first West Coast Joint Task Force Training Exercises (JTFEXs). A leader in the introduction of cutting edge information technology, he pioneered the use of information technology to mount large-scale operations using sea based command and control. He was the architect of the USS CORONADO transformation to a prototype Joint Command and Control ship (JCC), a founding father of the current Fleet Battle Experiment program, and originator of the Sea Based Battle Laboratory concept for significantly reducing the time to move technology to the fleet.

Staff duties include higher education as well as significant assignments in senior management. Vice Admiral Lautenbacher attended Harvard University receiving MS and Ph.D. degrees in Applied Mathematics. He was selected as a Federal Executive Fellow and served at the Brookings Institution. He served as a guest lecturer on numerous occasions at the Naval War College, the Army War College, the Air War College, The Fletcher School of Diplomacy, and the components of the National Defense University.

As a Cost Analyst in OSD Systems Analysis, he became an expert in building cost estimating models for major acquisition programs with specialization in aircraft R&D and procurement. He was one of the original members of the Cost Analysis Improvement Group (CAIG) independent cost estimating effort. As Assistant for Strategy with the CNO Executive Panel, and Program Planning Branch Head in the Navy Program Planning Directorate, he continued to hone his analytic skills resulting in designation as a specialist both in Operations Analysis and Financial Management.

As a Flag Officer he served as Deputy Chief of Staff for Management/Inspector General on the staff of Commander in Chief U.S. Pacific Fleet; and Director of Force Structure, Resources, and Assessments (J-8) on the Joint Staff, where he contributed to the development of the Base Force and was a prime architect of the Bottom Up Review military force structure. He also served as director, Office of Program Appraisal, on the Staff of the Secretary of the Navy and his last assignment on active duty was Deputy Chief of Naval Operations (Resources, Warfare Requirements and Assessments) personally responsible for developing the Navy Future (five) Years Program and $80B annual budget. These positions resulted in the development of significant expertise in federal government processes within both the Executive and Legislative branches.

After transitioning to the civilian sector, he formed his own management consultant business, and worked principally for Technology, Strategies & Alliances Inc. He was President and CEO of the Consortium for Oceanographic Research and Education (CORE) before joining NOAA Monday, Dec. 10, 2001. This not-for-profit organization has a membership of 65 institutions of higher learning, and a mission to increase basic knowledge and public support across the spectrum of ocean sciences.

BEST COPY AVAILABLE

ANSWERS TO POST-HEARING QUESTIONS

Response by Vice Admiral Conrad C. Lautenbacher, Jr., Under Secretary of Commerce for Oceans and Atmosphere, National Oceanic and Atmospheric Administration

Question: On page 81 of the hearing transcript, Chairman Ehlers requested information on Michigan and New Hampshire Sea Grant Funding.

Answer:

- In FY 2001, Michigan received $208,000 in pass-through, $1,323,025 in core funds, and $83,000 in National Strategic Investment funding.
- In FY 2001, New Hampshire received $2,246,166 in pass-through, $942,000 in core funds, and $0 in National Strategic Investment funding.
- Core funds are program funds allocated to each state and managed locally.
- The Sea Grant statute at 33 USC 1123(c)(3)(F) authorizes the Secretary to "accept funds from other Federal departments and agencies, including agencies within the Administration, to pay for and add to grants made and contracts entered into by the Secretary." It also, at 33 USC 1123(d)(2)(B) requires the Director to "advise the Secretary with respect to the expertise and capabilities which are available within or through the national sea grant college program and encourage the use of such expertise and capabilities, on a cooperative or other basis, by other offices and activities within the Administration, and other Federal departments and agencies." These funds are referred to as "pass-through" Sea Grant funds. Pass-through funds do not include funds appropriated directly to Sea Grant.
- National Strategic Investments are competitions on specific themes awarded by the National Sea Grant College Program office. They allow Sea Grant to focus significant funds on high visibility, national issues. They provide a flexible mechanism for Sea Grant to respond to high priority issues and opportunities within NOAA and the Administration without disruption of the strategic objectives of individual programs.

Question from Rep. Grucci

The proposed move of the Sea Grant program from NOAA to NSF concerns me as more research is ongoing at Sea Grant. If removed from NOAA, would Sea Grant be competing for research monies with other competitive grant applications? If so, would this be to the detriment of good, focused oceanic research? I am concerned that grants for lobster research or brown tide would be competing for dollars with physicists and biologists. Do you have any comments?

Furthermore, Sea Grant's ability to conduct activities strengthens its purpose and establishment. Would moving Sea Grant out of NOAA risk these extension efforts?

Answer:

- If the transfer occurs, it would be NSF's decision as to how to allocate the $57 million proposed for Sea Grant in the President's NSF budget. NSF and NOAA will coordinate in identifying research priorities.
- Additionally, if the transfer occurs, it would be NSF's decision on how to conduct extension activities. NOAA and NSF would consult on various alternatives.

Questions from Rep. Morella

1. What is the status of the "bottom up" review you mentioned in your testimony? What are the general parameters of the inquiry and when will it be complete?

Answer:

- The NOAA Program Review was directed by NOAA's Under Secretary of Commerce for Oceans and Atmosphere, Vice Admiral Conrad C. Lautenbacher, Jr., U.S. Navy (Ret.), in January and began by soliciting input from all NOAA employees. NOAH employees as well as the 16 NOAA executives on the Program Review Team were asked to address the following three questions:
    1) Is the NOAA organization aligned with its current missions and future missions? If not, what are your recommendations for change, near term and/or long term?

BEST COPY AVAILABLE

2) Are there significant imbalances in resources versus requirements? If so, what are your recommendations for change, near term and/or long term?
3) Are we being as efficient as possible in meeting our current and future mission tasking? If not, what are your recommendations for change near and/or long-term?

- The Program Review Team has been meeting for the past few months. A report to the Under Secretary of Commerce for Oceans and Atmosphere has been conducted.
- Following report submission by the Program Review Team, which is chaired by the Deputy Under Secretary for Oceans and Atmosphere, Scott B. Gudes, results from the review will be considered by the Under Secretary of Commerce for Oceans and Atmosphere, the NOAA Executive Council, the Department of Commerce and the Office of Management and Budget. At that time, decisions will be made about what actions the agency should pursue.

2. *What are the specific procedures for allocating money among the various Sea Grant programs and who makes these determinations? How much is allocated to "core" and how is its distribution different than "new" money? Who is responsible for these decisions?*

Answer:

- Since 1998, the National Sea Grant Office (NSGO) in NOAA allocates Sea Grant funding based on a three-tiered system that includes Base Funding, Merit Funding, and National Strategic Investments (NSIs.) Core funding is defined as Base Funding plus Merit Funding. Core funds are used by state Sea Grant programs to meet priorities in their state and region as determined by a strategic planning process involving constituents from a range of backgrounds, scientists, and representatives of industry, and government.
- The individual program core funding level is a funding allocation target for each program made in advance of a fiscal year. The core funding is intended to provide a continuum of support around which individual programs can plan and develop, providing both a basis for estimating the dollars available to a program in a given year and a target amount for omnibus proposals submitted to NOAA for that year. The funds support a small group of people dedicated to communicating with relevant constituents on issues related to the Sea Grant program, as well as scientific research related to the Sea Grant mission. The core funding level for a given program consists of two components: the program's base funding and merit funding. Program base funding represents NOAA's investment in local infrastructure and addresses directly the stability of funding required by the Sea Grant Act. Merit funding is intended to reward program performance and is determined every four years. More detailed explanations follow below.

  1. *Base Funding ($44 Million)*—The base funding is designed to provide a stable base of funding for each Sea Grant program, as required by the 1998 Sea Grant Reauthorization Act. This funding represents the NOAA investment history and cumulative performance record that is the legacy of each individual program. Since FY 1998, there have been additional increases to the base programs usually distributed as an across-the-board inflation adjustment. In addition, in FY 2001 each program received a $50,000 increase for the purpose of increasing their program's emphasis on Coastal Communities. In FY 2002, each Sea Grant Program is receiving an additional $15,000 for Fisheries Extension.
  2. *Merit Funding ($3 Million)*—Merit funding is awarded to Sea Grant programs based upon the outcome of performance evaluations conducted by boards of outside visitors and the NOAA/NSGO every four years. Sea Grant programs are rated in one of four categories and all programs within a category receive the same amount of merit funding, independent of the amount it received under Base Funding.
  3. *National Strategic Investments ($11 Million)*—National Strategic Investments (NSIs) are national competitions conducted through RFP's issued by the NOAA/NSGO. Funding decisions are solely based on a peer-review, competitive process that is very similar to that used by the NSF. NSI topics are determined through Sea Grant's authorizing legislation or administratively by the NOAA/NSGO with advice from a national issues panel. NSIs promote research meritocracy, healthy competition, and provide a flexible mechanism for Sea Grant to respond to high priority na-

tional issues. Examples of NSIs include oyster disease and oyster-related human health risks, marine biotechnology, zebra mussel and other nonindigenous species, technology development and transfer, and fisheries habitat.

BIOGRAPHY FOR RUSSELL A. MOLL

Director, California Sea Grant College, University of California, San Diego, 9500 Gilman Drive, Dept. 0232, La Jolla, CA 92093-0232; Program Voice: 858-534-4440; Fax: 858-534-2231; e-mail: rmoll@ucsd.edu

EDUCATION

BA University of Vermont 1968—(zoology)

M.S. Long Island University 1971—(marine sciences)

M.S. University of Michigan 1983—(biostatistics)

Ph.D. State University of New York at Stony Brook 1974—(marine biology)

POSITIONS

Director, California Sea Grant College Program (2000–), University of California; Director (1996–2000), Acting Director, Michigan Sea Grant College Program (1996) University of Michigan; Associate Director, University of Michigan Biological Station (1998–2000); Associate Program Director (1994–1996), National Science Foundation; Director (1989–1996), Cooperative Institute for Limnology and Ecosystems Research (CILER); Assistant Director (1988–1993), Acting Assistant Director (1985–1988), Michigan Sea Grant College Program; Associate Research Scientist (1981–), Center for Great Lakes and Aquatic Sciences, University of Michigan; Lecturer (1982), University of Michigan; Assistant Research Scientist (1976–1981), University of Michigan; Research Investigator (1974–1976), University of Michigan

SCIENTIFIC AND PROFESSIONAL ORGANIZATIONS

American Association for the Advancement of Science, American Society of Limnology and Oceanography (Treasurer 1996–), International Association of Theoretical and Applied Limnology, The Oceanographic Society

SELECTED PUBLICATIONS

Moll, R.A., and M.Z. Brahce. 1986. The seasonal and spatial distribution of bacteria, chlorophyll, and nutrients in nearshore Lake Michigan. *J. Great Lakes Res.* 12:52–62.

Healey, M.J., and R.A. Moll. 1988. Abundance and distribution of bacterioplankton in the Gambia River, West Africa. *Microbial Ecology* 16:291–310.

Moll, R.A., and P.J. Mansfield. 1991. Response of bacteria and phytoplankton to contaminated sediments. *Hydrobiologia* 219:281–299.

Moll, R.A., A. Bratkovich, W.Y.B. Chang and P. Pu. 1993. Physical, chemical and biological conditions associated with the Lake Michigan vernal thermal front. *Estuaries* 16:92–103.

Moll, R., T. Johengen, A. Bratkovich, J. Saylor, G. Meadows, L. Meadows, and G. Pernie. 1993. Vernal thermal fronts in large lakes: A case study from Lake Michigan. *Verh. Internat. Verein. Limnol.* 25:65–68.

Moll, R.A., D.J. Jude, R. Rossmann, G. Kantak, J. Barres, S. DeBoe, J. Giesy, and M. Tuchman. 1995. Movement and loadings of inorganic contaminants through the lower Saginaw River. *J. Great Lakes Res.* 21(1):17–34.

Verbrugge, D.A., J. Giesy, M.A. Mora, L. Williams, R. Rossmann, R.A. Moll, and M. Tuchman. 1995. Concentrations of dissolved and particulate polychlorinated biphenyls in water from the Saginaw River, Michigan. *J. Great Lakes Res.* 21:219–233

February 25, 2002

Ms. Mary Derr
Committee on Science
2319 Rayburn House Office Building
Washington, DC 20515

RE: Financial disclosure for Russell Moll

Dear Ms. Derr:

Please be advised that California Sea Grant receives approximately $5,332,000 in federal support each year. All of those funds come from the National Sea Grant Office, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

Funds for my salary support come from the University of California and not federal sources.

Thank you.

Sincerely,

Russell Moll

Russell Moll
Director
California Sea Grant

ANSWERS TO POST-HEARING QUESTIONS

Response from Russell Moll, Director, California Sea Grant College Program

1. Reply to the question from Mr. Grucci: Many of us within the Sea Grant community have concerns regarding the proposal to move funds for Sea Grant from NOAA to NSF. In particular how will the National, Science Foundation maintain the outreach portion of Sea Grant or the basic components of the current network of programs? Many of these issues were addressed in my written testimony provided to the staff of the House Science Committee. As such, I refer Congressman Grucci to that written testimony.

2. Reply to the question from Mrs. Morella: The allocation of funds among the various Sea Grant programs is a complex issue that has three major components—the prior funding history, merit and overall quality of the program. The National Sea Grant Office determines how funds are allocated to each Sea Grant program. While the individual Sea Grant Programs provide a modest amount of input on this issue to the National Sea Grant Office, the final decision rests with the latter. For a more complete description of the specific allocation procedures, I encourage Congresswoman Morella to contact the National Sea Grant Office. Once funds arrive at each Sea Grant Program, they make the decision locally on how to allocate monies to the different components of the program such as research and outreach.

BIOGRAPHY FOR MARY HOPE KATSOUROS

Mary Hope Katsouros is a Senior Fellow and Senior Vice President for The H. John Heinz III Center for Science, Economics and the Environment. Prior to joining The Heinz Center in 1996, she was the Director of the Ocean Studies Board of the National Research Council.

The Ocean Studies Board serves as an independent advisor to the federal government on a broad range of ocean science and policy issues. In her capacity as director, she was responsible for the scientific, administrative, and financial affairs of the Ocean Studies Board. Specifically, she developed appropriate research agenda and strategies for achieving program activities; designed or approved program study plans; coordinated the selection of committee members; developed support for new and follow-up research/policy studies; wrote or approved study proposals; maintained positive relations with sponsors; supervised and participated in ongoing research by directing, reviewing, and contributing to the writing of reports and publications; and planned oral presentations of research findings to sponsors and the broader professional/policymaking community.

Ms. Katsouros has supervised the production of more than 50 National Research Council reports on issues spanning the oceanographic research disciplines and linking ocean science and policy. Some recent studies include the ocean's role in global change, the effects of low-frequency sound on marine mammals, the application of analytical chemistry to oceanic carbon cycles, the global ocean observing system, marine fisheries science and management, biological diversity in marine systems, coastal science and policy improving decision-making, and ecosystem management for sustainable fisheries. Ms. Katsouros joined the National Research Council in 1971 and served in several staff positions before assuming the directorship in 1989.

Her personal research interests include pollutants in the marine environment especially inputs, fates, and effects of oil spills. She also is interested in the law of the sea and its affect on resource management and marine scientific research. Ms. Katsouros has served as an advisor to the Department of State on law of the sea issues and to the Congressional Office of Technology Assessment on oil spills. In recognition of her service to ocean sciences, Ms. Katsouros was the recipient of the 1996 American Geophysical Union's Ocean Sciences Award.

Ms. Katsouros holds a law degree from the Georgetown University Law Center with undergraduate and Master's degrees from the George Washington University.

THE
HEINZ
CENTER

February 27, 2002

The Honorable Vernon J. Ehlers
Chairman
Subcommittee on Environment, Technology, and Standards
Committee on Science
U.S. House of Representatives
Rayburn House Office Building, Suite 2320
Washington, DC 20515

Dear Chairman Ehlers:

In compliance with the Rules of the House of Representatives for an individual testifying before Congress representing a nongovernmental organization I am disclosing the following federal funding over the preceding two fiscal years has been received by The Heinz Center:

FY 2001	
Federal Emergency Management Agency	$200,000
NOAA/National Marine Fisheries Service	$306,000
NOAA/Coastal Services Center	$ 70,450
NOAA/Coastal Services Center	$300,000
NOAA/National Ocean Services	$600,000
FY 2000	
Federal Emergency Management Agency	$ 99,000
NOAA/National Ocean Services	$500,000
NOAA/Coastal Services Center	$120,000
NOAA/National Marine Fisheries Service	$ 75,000
NOAA/Coastal Services Center	$300,000
Office of Naval Research	$200,000
Office of Naval Research	$174,340

None of the funding received is for work for or related to the NOAA Sea Grant Program.

Sincerely yours

Mary Hope Katsouros

Mary Hope Katsouros
Senior Fellow and Senior Vice President

MHK/p-md

The H. John Heinz III Center for Science, Economics and the Environment
1001 Pennsylvania Avenue, N.W., Suite 735 South, Washington, D.C. 20004
Telephone (202) 737-6307 Fax (202) 737-6410 www.heinzctr.org

BEST COPY AVAILABLE

Mary Hope Katsouros did not respond to the questions posed by the members after the hearing.

BIOGRAPHY FOR NANCY N. RABALAIS

Louisiana Universities Marine Consortium, 8124 Hwy. 56, Chauvin, Louisiana 70344; 985-851-2800, -2836 direct, -2874 fax; nrabalais@lumcon.edu

Nancy Rabalais is a Professor at the Louisiana Universities Marine Consortium where she has been employed since 1983. She earned a Ph.D. in Zoology from the University of Texas at Austin in 1983, and her B.S. and M.S. in Biology from Texas A&I University, Kingsville, in 1972 and 1975. Prior to LUMCON, Dr. Rabalais was a Research Associate then graduate student at the University of Texas Marine Science Institute in Port Aransas. She teaches marine science courses at LUMCON and in the Dept. of Oceanography & Coastal Sciences at Louisiana State University. Dr. Rabalais' research interests include the dynamics of hypoxic environments, interactions of large rivers with the coastal ocean, estuarine and coastal eutrophication, benthic ecology, and environmental effects of habitat alterations and contaminants. Dr. Rabalais is a AAAS Fellow, an Aldo Leopold Leadership Program Fellow, a Past President of the Estuarine Research Federation and currently is Chair of the Ocean Studies Board of the National Research Council. She was named a 1999 NOAA Environmental Hero for her work on the causes and consequences of Gulf hypoxia, received the 2002 Bostwick H. Ketchum Award for coastal research from the Woods Hole Oceanographic Institution, and shares the 1999 Blasker Award for Environmental Science and Engineering with Gene Turner of LSU for similar endeavors.

Louisiana Universities Marine Consortium
8124 Hwy. 56, Chauvin, LA 70344

26 February 2002

The Honorable Vernon J. Ehlers, Chairman
Subcommittee on Environment, Technology, and Standards
U.S. House of Representatives
Committee on Science
Suite 2320 Rayburn House Office Building
Washington, DC 20515-6301

Dear Representative Ehlers,

In preparation for my testimony before your subcommittee concerning the move of Sea Grant to the National Science Foundation, and the Sea Grant College program reauthorization H.R. 3389, which also includes a move of the NOAA Coastal Ocean Program to Sea Grant, I disclose that as a marine researcher at the Louisiana Universities Consortium I have received or conducted research with the following research funds within the past three years:

Refining phytoplankton pigment data for an accurate determination of estuarine phytoplankton community composition. Louisiana Sea Grant College program, Nancy Rabalais, Quay Dortch, $150,000, Feb 02 - Jan 04.

Enhancement of the Basic Oceanographic Analytical Capabilities at LUMCON, with R. Powell et al., Louisiana Board of Regents Enhancement Fund, $110,000 for nutrient analyzer, CHN analyzer, awarded, pending contract, Jul 01 – Jun 02.

NOAA National Undersea Research Program – Documentation of Hypoxia Effects on Living Resources, Turner, Harper, Chesney, $20,000 awarded for summer 2001 – June 2002.

N-GOMEX, Hypoxia Studies in the Northern Gulf of Mexico, NOAA, Coastal Ocean Program, Principal Investigator with co-PI Quay Dortch, $883,012, Aug 00 – Jul 03, collaborative award to R. E. Turner, N. Walker, W. Wiseman at LSU for $446,702 for same period.

Impacts of Climate Variability on Coastal Fisheries in Low Oxygen Environments, Department of Energy, NIGEC, Co-Principal Investigator, N. N. Rabalais, with D. Justic, R. E. Turner, $29,909 of $105,000 in year one, expected continuation inures 2 and 3, Jul 00 – Jun 03.

Physical and Biological Processes Affecting the Distribution of Hypoxia on the Louisiana Continental Shelf, U.S. Environmental Protection Agency, EPSCoR program, Principal Investigator with R. E. Turner, W. J. Wiseman, Jr., D. Justic, $320,000, Mar 00 – Feb 02.

Hypoxia Hydrographic and Biological Surveys – 1999 Field Season, NOAA Coastal Ocean Program, Principal Investigator with R. E. Turner and W. J. Wiseman, Jr., $229,000, Apr 1999 – Mar 2001.

Assessment of Historical Hypoxia in Charlotte Harbor, Principal Investigator, $33,565, Jul 1998 – May 2001.

Deepwater Program: Literature Review, Environmental Risks of Chemical Products Used in Deepwater Oil & Gas Operations, consultant to Arthur D. Little, Inc. for Minerals Management Service Contract No. 01-98-CT-30900, co-investigator, $13,000, Jan 00 – Dec 01.

A Nitrogen Budget for Lake Pontchartrain, Lake Pontchartrain Basin Foundation, Co-Principal Investigator with R. E. Turner and Q. Dortch, $12,500 of $128,645, Apr 99 – Mar 00.

Effects of Hypoxia in the Northern Gulf of Mexico: A Synthesis, Louisiana Sea Grant College Program, Principal Investigator, with R. E. Turner, $67,174 of $95,000, Mar 1998 - Feb 2001

Topic 1, CENR Hypoxia Assessment, Federal Interagency Working Group on Hypoxia, Principal Investigator, with R. E. Turner, D. Justic, W. J. Wiseman, Jr. and Q. Dortch, $24,931 of $61,828, Jan 1998 - Jun 1999.

Enhancement of the Marine Chemistry Analytical Capabilities of the Louisiana Universities Marine Consortium, $145,000, Louisiana Board of Regents Support Fund, co-Principal Investigator with R. Powell, Jun 99 - Dec 00, partial award.

Modern Baselines for Assessment of Global and Regional Impacts from Production, Transport and Use of Fossil Fuels: Characterization of Endemized Assemblages in the Northern Gulf of Mexico at Risk from Warming, Hypoxia and Habitat Perturbation, U.S. Department of Energy, Co-Principal Investigator with D. L. Felder et al., $42,000 of $1.5 mil, Oct 1997 - Sep 2001.

Historical Reconstruction of the Contaminant Loading and Biological Responses in the Central Gulf of Mexico Shelf Sediments, Minerals Management Service/LSU Coastal Marine Institute, Co-Principal Investigator, with R. E. Turner et al., $77,274, Oct 1995 – Jun 02.

Sincerely,

Nancy Rabalais

Nancy N. Rabalais, Ph.D.
Professor
985-851-2800, -2836 direct, -2874 fax
nrabalais@lumcon.edu

ANSWERS TO POST-HEARING QUESTIONS

Response by Nancy N. Rabalais, Professor, Louisiana Universities Marine Consortium

Mr. Grucci,

My understanding of the OMB proposal to move Sea Grant to the National Science Foundation is that the integrity of the Sea Grant program would be preserved under the umbrella of the National Science Foundation. Given the very different missions of the two institutions, the type of research that they fund, and the funding mechanisms (such as state support and matching requirements for Sea Grant), I think it would be improbable that these distinctions would be maintained. A move of the Sea Grant program to NSF would not harm "good, focused oceanic research" that you question because whatever funds are provided to the NSF will be well spent on whatever type of research is eventually supported. The NSF has a good reputation for funding the best, peer-reviewed science. I do not expect, however, that specific, applied research programs such as those identified by you ("lobster or brown tide") would receive much support within the current NSF system for determination of research foci and awarding of grants.

I hope that these additional comments are useful.

Nancy N. Rabalais
Professor, Louisiana Universities Marine Consortium
S 124 Hwy. 56
Chauvin, LA 70344

Biography for Michael J. Donahue

Dr. Michael J. Donahue is President/CEO of the Great Lakes Commission, a binational agency serving the Great Lakes states and provinces in the areas of policy research, development and advocacy on a range of environmental protection, resource management and economic development issues. He has served in this capacity since 1987. His responsibilities include strategic planning, regional advocacy, program development and oversight, intergovernmental relations and administration. Prior to this appointment, Donahue held senior management/research positions with The Center for the Great Lakes, the Great Lakes Basin Commission and various departments at the University of Michigan:

Donahue is an Adjunct Professor at the School of Natural Resources and Environment at the University of Michigan, and a Lecturer in Law at the University of Toledo School of Law. He has designed and taught graduate seminars on bi-national resource management issues, and lectured extensively throughout the United States and Canada.

Donahue is U.S. Chairman of the International Joint Commission's Science Advisory Board, a member of the U.S. Army Corps of Engineers' Environmental Advisory Board, and a member of the Michigan Sea Grant Advisory Board. He has also been a member of the board of directors of more than a dozen other regional agencies, organizations and research institutes. He has authored more than a 150 professional papers, book chapters and journal articles, and is author of 1987 book titled *Institutional Arrangements for Great Lakes Management: Past Practices and Future Alternatives*. He is the recipient of multiple awards including the Great Lakes Commission's "Outstanding Service" award and the "Distinguished Leadership" award of the Interstate Council on Water Policy. He holds three degrees from the University of Michigan including a doctorate in Urban, Technological and Environmental Planning.

Michael Donahue did not respond to the questions posed by the members after the hearing.

Appendix 2:

ADDITIONAL MATERIAL FOR THE RECORD

SUBMITTED STATEMENT OF DR. GERALDINE KNATZ

The Port of Long Beach

P.O. BOX 570 · LONG BEACH, CA 90801-0570 · TELEPHONE (562) 437-0041 · FAX (562) 901-1725

February 26, 2002

Mr. Vernon J. Ehlers, Chairman
Subcommittee on Environment, Technology and Standards
House Science Committee
2320 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Ehlers:

SUBJECT: Hearing on the Reauthorization of the National Sea Grant College Program on February 28, 2002

I am writing in regard to the above as the Chair of the National Sea Grant Review Panel, which is the Congressionally mandated advisory body to the Secretary of Commerce, the Administrator of the National Oceanic and Atmospheric Administration, and the Director of the National Sea Grant College Program. I am also Managing Director of the Port of Long Beach, California where I have for a long time been involved with the transportation and environmental planning for one of the Nation's largest ports. My comments to the Committee with respect to the National Sea Grant College Program are drawn from my experience in both of these capacities.

The National Sea Grant Review Panel has taken an active role in the work of Sea Grant. I personally have served two-terms on the Panel and I am pleased to have this opportunity to provide you my thoughts on the reauthorization of Sea Grant and the budget proposal to transfer Sea Grant from NOAA to the National Science Foundation.

Sea Grant Reauthorization

The provisions contained in H.R. 3389 - National Sea Grant College Program Act Amendments of 2001 - will strengthen the Sea Grant Program. The authorized funding levels will go a long way toward providing the level of resources Sea Grant needs to carry out the mandate and vision Congress has entrusted to it. I work in one of the industries that is having a major impact on our coastal communities, both land-side and in the water. Every day I struggle with trying to meet a national demand and protect the natural environment while trying to improve the quality of life in a highly urban area of the Port of Long Beach. I need help!

PRESIDENT'S "E" AND "E-STAR" AWARDS FOR EXCELLENCE IN EXPORT

BEST COPY AVAILABLE

Sea Grant has been there many times to provide science-based technical assistance, but there are major metropolitan regions of this country that are served by only one Sea Grant agent. In the past, Sea Grant had a very active presence in the port community. Given that the volume of trade through our Nation's ports, mostly in highly populated urban areas, will at least double over the next 20 years, these communities will be strained to the breaking point. With adequate resources Sea Grant could develop a network of port specialists, people who can bring good science to the debate, people who have the credibility to help mediate policy issues regarding port expansion. And ports and urban coastal problems are but one of the many areas Sea Grant serves. There are also aquaculture and fisheries, coastal community development, recreation and tourism, marine biotechnology, coastal hazards, coastal ecosystems, seafood quality, and education.

I also think that the greater emphasis in H.R. 3389 on ocean and coastal resources conservation and management is right on target. The transfer of the Coastal Ocean Program from the National Ocean Service to the National Sea Grant College program office will, I believe, have a synergistic effect and benefit both programs. This change would certainly increase collaboration between academia and the scientists and programs of the National Oceanic and Atmospheric Administration.

Transfer to the National Science Foundation

Let me turn to the issue of the proposed transfer in Fiscal Year 2003 of the funds supporting the National Sea Grant College Program from NOAA to the National Science Foundation (NSF). Not only would the Sea Grant budget be transferred to NSF, but it would be significantly cut by $5,000,000 or 9 percent from Sea Grant's Fiscal Year 2002 appropriation.

The rationale for transferring the Sea Grant Program to NSF is based on flawed and incomplete information, I believe. And unfortunately, I have not seen any subsequent information in budget documents nor in press reports that offer any reasonably rigorous explanation for the change that makes sense to someone who has observed and evaluated the program for many years. I also find it disconcerting that the Sea Grant Review Panel, the outside advisory body closest to the issue, was never consulted in this decision.

Let me illustrate. I read a news story that characterized the Sea Grant program as adrift for far too long. One can only wonder how such inferences are drawn and from what sources of information. From my perspective, having watched, reviewed, and studied this program for many years, I am pleased to say with a voice verging on frustration that the Sea Grant program is not adrift in any sense. In fact, Sea Grant is one of the most often-reviewed programs in government. From my reading, these evaluative reports on Sea Grant – by the National Research Council and last year by the Byrne Committee – are a testimony to the program's effectiveness in facilitating the Nation's sustainable development of coastal resources.

From my own experience on the Panel, particularly conducting performance reviews of university-based Sea Grant programs the last four years, I would conclude that Sea Grant is an extremely well-managed program with a demonstrably productive record of impacts. Furthermore, Sea Grant's performance-based program assessment process serves as a unique model for the rest of government for evaluating and improving science and education programs.

Folks less familiar with Sea Grant ask me what's the harm if Sea Grant moves from NOAA to NSF? After all, NSF is one of Nation's premier basic science programs. There are two answers I like to give. First, I like to point out that all Sea Grant research is peer reviewed and competitively awarded, like NSF. But in addition, Sea Grant extension and education provides NOAA one of its most important vehicles for transferring objective scientific information to a diverse nationwide audience. I believe that removing the Sea Grant capability from NOAA and replacing it with an NSF-based research-only program will impair NOAA's future ability to achieve mission objectives. And second, and even more important, the NSF move would prove to be a major loss for the constituents along America's coasts that have benefited for more than 30 years from the Sea Grant presence in their regions.

The genius of the Land Grant system on which Sea Grant is modeled is that it is a federal/university partnership that combines three elements: research, education and, what is most important, a university-based extension service whose purpose is to transfer objective, science-based information to users for action. Under this paradigm, Sea Grant has provided a high return of the public's investment. I would also argue that Sea Grant has faithfully tried and largely succeeded in meeting the Congressional intent to provide for the understanding and wise use of ocean, coastal, and Great Lakes resources; to foster wise economic development; and to promote public stewardship.

The NSF model is less well-suited to the Sea Grant mission envisioned by Congress. NSF programs are typically designed to support basic scientific research which is not the mission of Sea Grant. The NSF model lacks the requisite local management, user involvement and outreach programs to rapidly disseminate information to users. I fear that an NSF-based program will not be a Sea Grant program as currently defined in legislation.

Final Thoughts

In closing, we believe Sea Grant is vital to the mission of NOAA and its unique strengths argue for its greater role in United States ocean science and coastal resource management. It is a program that works and its products are valued by those it serves. It is these inherent strengths and an increasing demand for the services Sea Grant provides that make reauthorizing the Sea Grant program so important.

Sincerely,

Geraldine Knatz

Geraldine Knatz, Ph.D.
Chair, Sea Grant Review Panel

SUBMITTED STATEMENT OF KEVIN G. SELLNER

Introduction

It is my pleasure to submit the following comments to the House Science Committee. I am submitting these comments in reference to the transfer of the Coastal Ocean Program to Sea Grant as proposed in H.R. 3389. I oppose the transfer and provide the following text in support of my opposition.

As an active researcher in plankton ecology for more than two decades and a former Program Officer in the Coastal Ocean Program coordinating the interagency research program ECOHAB (Ecology and Oceanography of Harmful Algal Blooms), I feel I am qualified through working experiences with both the COP and Sea Grant to effectively assess the success likely for COP programs on their transfer to Sea Grant. I offer the following comments for consideration.

Sea Grant as a National Resource

The Sea Grant Program is a highly recognized and successful program in the U.S., supporting coastal and Great Lakes research focused on identified local to State needs in specific areas of interest such as aquaculture and biotechnology. The program is a huge success and is viewed as an integral part of our national research program for excellence in coastal resource-related areas. Working through its state-affiliated offices, Sea Grant has provided some of the first support for critically needed research in many focused areas, providing an excellent foundation for familiarizing local officials and resource managers with critical insights for modifying local resource management. Through its outreach and extension programs, it has distributed information to many coastal sectors and provides one of the most effective distribution sites for sorely needed basic fundamental science in many areas.

In this effort, Sea Grant provides resources for modest grants towards providing baseline information for specific local-State identified problems. Generally, grants are one or several years duration and support one to several investigators. Receiving institutions provide matching funds, ensuring active partnership from the recipient institutions and the Federal Government, and thereby guaranteeing institutional commitment to recognition of the products for its local stakeholders. The Sea Grant outreach and extension programs guarantee distribution, fulfilling the interests of local user community (policy staffs and resource managers) and through the primary funding, the research interests of the investigators.

The admirable program is a huge local resource. However, by the nature of its focus on assisting in local issue resolution, Sea Grant cannot fulfill the goals of the Coastal Ocean Program's research effort.

The Coastal Ocean Program as a "One-and-Only" Research Opportunity

Throughout its short history, the Coastal Ocean Program has worked with the research and management communities to identify large scale, regional to national problems and provide funding for addressing the complex spatial and temporal concerns with long-term, multidisciplinary, multi-institutional research programs and projects. There are few, if any other comparable programs for duration or funding level that specifically focus on regional to national issues for societal benefit. That is, once identified through workshops of researchers, managers, and private organizations, initiatives are developed that outline the critical problems to be explored and the expected impacts for basic knowledge and its application to living or coastal resources. Through committed large funding levels over 3–6 year periods, research is encouraged that will provide critically important information for altering regional to national policies on specific topical areas. For example, NECOP (Nutrient Enhanced Coastal Ocean Productivity) in the early 1990's set the stage for the extensive 'dead zone' studies and evaluations later in the decade leading to the national Gulf of Mexico Ecosystems and Hypoxia Assessment that now serves as the guiding document to managing nutrients in the Mississippi River drainage basin. The Bering Sea FOCI (Fisheries Oceanography Coordinated Investigations) project, the study of pollack in the Bering Sea sponsored by COP in the 1990's, identified a critical zone in international waters, the 'donut hole,' that contained reproductive stocks for both U.S. and the former Soviet Union fisheries. This information helped in international negotiations for fishing in this critical area. Additionally, it identified a highly productive southeast area of the region leading to the multi-year Southeast Bering Sea Carrying Capacity (SEBSCC) project which now funnels information on stocks to regional fisheries managers. COP also helped set up the Great Lakes Coastal Forecast System, to predict the physical state of the Great Lakes, extremely valuable to ship traffic in the region and was the initial supported of CoastWatch, the national real-time and near-real time distributor of satellite information. The CoastWatch operations were subsequently transferred to NESDIS in 1995–1996.

GLOBEC (Global Ocean Ecosystems Dynamics), an interagency and multi-national program with the National Science Foundation, has provided critically needed fisheries-related information for both coasts, providing detail of fish stocks and food items critical to managing depauperate fish stocks and besieged U.S. fisheries. The COP multiple-stressors program has sponsored two 5–6 year projects with COASTES (Complexity and Stressors in Estuarine Coastal Ecosystems) linking academic and Federal scientists, State management, modelers, and socio-economists in deriving products of practical importance to the management of nutrients and trace metal additions in a Chesapeake Bay tributary. ECOHAB, another interagency research program involving four other Federal agencies, is coordinated and run from NOAA COP. ECOHAB supports regional multidisciplinary studies to provide insights into bloom ecology and impacts, with a goal to provide new detection capabilities for routine use in public monitoring programs as well as forecasting models for bloom and toxin delivery to coastal sites along the U.S. Its forecasting models are now being examined for application in coastal waters of our European allies, such as Ireland. A complementary program, MERHAB (Monitoring and Event Response for Harmful Algal Blooms), is also run through COP and provides direct multi-year support for new technology development and incorporation of new tools into public programs. It requires direct collaboration of Federal scientists and staffs, academic researchers, State and other public officials, NGOs, and industry for 3–5 year; it is designed to transition research products from COP-supported projects to non-Federal supported monitoring programs in States, local jurisdictions, and Indian Nations. COP also oversees and coordinates the National Event Response Program for Harmful Algal Blooms, an interagency, immediate response program to assist States and local jurisdictions in dealing with specific events. It provides analytical services, research expertise from Federal and academic institutions, sampling platforms, and remote sensing technologies for immediate response for algal bloom-generated threats to endangered and threatened species, birds, fish, and other living resources, including humans. The program has provided direct assistance to FL and CA for repeated events, and guidance to other states where initial threats were thought to be HAB-related.

All of the projects in these programs (except the latter) are selected in open competition and after extensive peer review, modeled after the National Science Foundation process, but with a coastal resource focus. Once selected, the multidisciplinary, 3–6 year projects receive approximately $1M annually with additional support for oceanographic ship charter, rental, and hire. Through its Federal partnerships, ship time on UNOLS vessels is sought and expenses shared with its Federal partners. COP's annual ship operations can exceed $2–3M for the large, ocean-going research projects, sums over and above the research funding provided in the large projects.

Unfortunately, these types of programs cannot be accommodated in Sea Grant. There is no infrastructure in place to oversee the types of multi-year programs, and there is no capability for providing the ship time required for the long-term, coastal-oceanic sampling programs. Undertaking such a program in Sea Grant would require a massive change in administration and a large commitment to flexibility, tasks easily agreed to but unlikely to succeed with the historical commitment to single-several investigator studies for estuarine and Great Lakes projects administered by individual states.

Finally, a critical aspect of COP's success with its large programs directed at providing responsive research for spatially and temporally expansive regional problems has been its investment in intra- and interagency partnerships as well as collaborations outside the Federal Government. COP partners throughout NOAA, other Federal agencies, State resource and health departments, academic institutions, nongovernmental organizations, and Indian Nations. Staff have worked to include strong collaborations with other line offices and centers within NOAA, including the National Sea Grant Program, NMFS' Office of Protected Resources, and the National Oceanographic Data Center in ECOHAB, the National Sanctuaries Program and NMFS's Northwest Fisheries Science Center in MERHAB, and the Office of Response and Restoration, NESDIS (National Environmental Satellite, Data, and Information Service) for the National Event Response Program for Harmful Algal Blooms, and the NMFS centers, Alaska Fisheries Science Center, Northwest Fisheries Science Center, and the Northeast Fisheries Science Center, for the fisheries-related projects (GLOBEC, SEBSCC). Federal partners are critical and important collaborators in ECOHAB (NSF, ONR, EPA, NASA), GLOBEC (NSF), and the National Event Response Program for Harmful Algal Blooms (EPA, FDA, CDC). State partners include Maryland's Department of Natural Resources, Florida's Fish and Wildlife Conservation Commission, Maine's Department of Marine Resources, Oregon's Office of Land Conservation and Development, Washington's Department of

Health, Department of Fish and Wildlife, and Department of Ecology, NJ Department of Environmental Protection, and the NY-Suffolk County Department of Health. Non-governmental organizations working with COP include CORE (Consortium for Oceanographic Research and Education) for ECOHAB and the National Ocean Partnership Program, Environmental Defense for revisions of the national harmful algal plan *(Marine Biotoxins and Harmful Algae: A National Plan)*, START (Solutions To Avoid Red Tide) for Florida red tide work, the Marine Mammal Stranding Network, the National Office for Marine Biotoxins and Harmful Algal Blooms, and many others. There are strong working relationships between COP and the Quileute and Quinault Indian Nations and the Makah and Hoh Tribes of the Pacific Northwest in the MERHAB Program. These are active working relationships established between COP and representatives of these organizations to expand the application of COP's sponsored-research results throughout the national community, collaborations and relationships jeopardized in the suggested transfer of the COP to Sea Grant. What took so long to establish for the strong, functional COP would need to be re-implemented, requiring extensive administrative flexibility and willingness for forging new associations. Even with best intentions, re-forging these relationships would take several funding cycles, seriously curtailing existing programs and stalling any new grants or cooperative agreements.

Solution

The national community of researchers and coastal managers seek long-term funding and solutions to current and emerging problems in our coastal zones and living resources. Both the COP and Sea Grant provide funding for addressing coastal issues, but at different scales and outcomes. COP and Sea Grant are highly respected and quite distinct programs, and hence, should remain independent. Sea Grant's outreach program is unparalleled and a national resource. COP's long-term, multidisciplinary studies for assisting coastal resource management and health are unmatched for altering regional, national, and international resource management and response efforts. The transfer of COP to Sea Grant jeopardizes the on-going programs and the highly anticipated results for coastal managers, but more importantly future ocean-going projects requiring long term, and large individual fiscal commitments for supporting multidisciplinary, multi-investigator programs. The two offices function well as they are presently, with specific approaches, strengths, and projects. Combining the two jeopardizes the existing COP provided opportunity not seen anywhere else for coastal resource-focused, regional, multi-investigator research over very large spatial and temporal scales, yielding national and internationally applicable results for our besieged coastal systems. COP should remain independent of the Sea Grant Program in order for these large programs to continue because within Sea Grant there is a limited national/regional approach to setting priorities for coastal management as exists within the COP's present line Office, the National Ocean Service.

Respectfully submitted by: Dr. Kevin G. Sellner, Director, Chesapeake Research Consortium, 645 Contees Wharf Road, Edgewater, MD 21037.

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

ERIC
Educational Resources Information Center

NOTICE

Reproduction Basis

☐ This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.

☒ This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").

EFF-089 (1/2003)